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ABSTRACT

This book, which is intended primarily for Australia's vocational education and training (VET) sector, industry decision makers, and policymakers, provides an overview of occupational trends and the current training effort relating to occupations in Australian industry. Chapter 1 traces economic and labor market changes and the changing qualifications profile of Australia's work force since 1987. In the remaining 17 chapters, industry-specific information is provided about the sectors of Australia's economy: agriculture, forestry, and fishing; mining; manufacturing; electricity, gas, and water; construction; wholesale; retail; accommodation, cafes, and restaurants; transport and storage; communication services; finance and insurance; property and business services; government administration and defense; education; health and community services; cultural and recreational services; and personal and other services. The following information is discussed for each sector: the sector's relative size, activity, and role in Australia's economy; employment trends; occupational composition; qualifications profile; occupational trends and skill shortages; hours of work and earnings; geographic distribution; training available; employer satisfaction with VET; VET graduates in the sector; employer support for training; training issues in the sector; and emerging VET issues in the sector. Included throughout the book are 262 tables/charts. (MN)

ED 426 239

The outlook for training in Australia's industries

NCVER

...S OUTLOOK
WHERE'S ... INDUSTRY GOING!

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The outlook for training in Australia's industries

1998

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Preface

THE FOLLOWING PUBLICATION has been designed to provide readers with an overview of occupational trends and the current training effort relating to occupations in Australian industry. The first chapter gives an overview of what has happened to all industries in Australia and is followed by a further 17 chapters which look at each individual industry within Australia.

Within each industry chapter, data are analysed at the major Australian and New Zealand Standard Industry Classification (ANZSIC) industry division level, given that it is at this level most data are collected and disseminated. Each industry chapter addresses:

- recent employment trends
- recent occupational trends in key skills areas
- current training arrangements, particularly training levels and outputs

The publication brings together for the first time a range of survey data from the Australian Bureau of Statistics (ABS), together with graduate destination and employer satisfaction with training and other training data compiled for the Australian National Training Authority (ANTA) by the National Centre for Vocational Education Research (NCVER).

I would like to thank Tom Dumbrell for preparing this publication and would also like to acknowledge John Ray's contribution to the analysis of employment and occupation data.

NCVER acknowledges ANTA's significant contribution to the cost of this report in sponsoring its publication.

I hope that the material in this publication will be of interest to Australia's vocational education and training (VET) sector. In particular, the document is designed for industry decision-makers, policy-makers, teachers and trainers, researchers and students with an interest in VET.

Readers who are interested in more information about training markets or other areas of VET research are referred to the NCVER's vocational education and training research database (VOCED). Printed and diskette versions of VOCED can be obtained from NCVER (ph +61 8 8333 8400) or it can be accessed directly on the world wide web at the following address:

<http://www.ncver.edu.au/voced.htm>

Chris Robinson
National Centre for Vocational Education and Research Ltd

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Overview

Economic and labour market changes since 1987

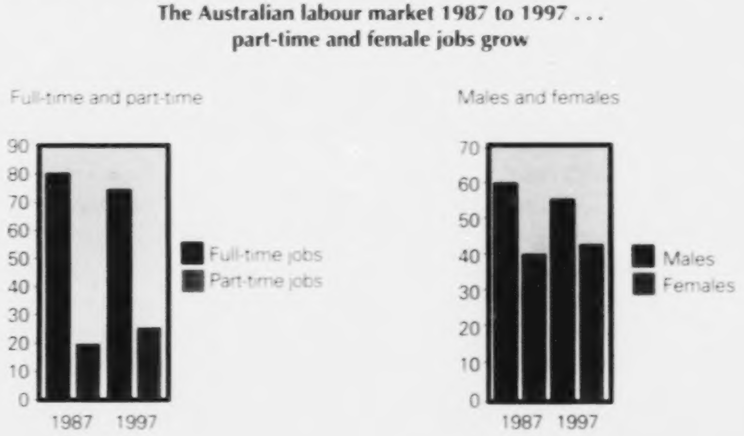
The changing labour market

THE VOCATIONAL EDUCATION and training (VET) sector seeks to provide skills that are relevant to the current and future demands of the labour market. Before looking at the changes at the detailed level in the Australian labour market, some of the broader trends in that labour market should be noted as they, too, can have a significant impact on the VET system.

Between 1987 and 1997 the level of total employment in Australia rose by more than 1.3 million jobs, or by 18.6%. Less than half this increase was accounted for by full-time jobs, which rose by about 600 000 or around 10.5%. Part-time employment over the period rose by about 760 000, or by over 53%. In 1987, full-time jobs made up more than 80% of total jobs; by 1997 full-time employment's share of jobs had fallen to just over 74%.

Females filled nearly 820 000, or more than 60%, of the additional jobs created between 1987 and 1997. Full-time female jobs rose by 335 000, or 19%, while part-time female jobs rose by over 480 000, or by more than 43%. Male employment overall rose by 508 000, of which a little more than half, about 264 000, were full-time jobs.

Chart 1: **Employment growth (%) in the Australian labour market, by gender and type of employment, 1987 to 1997**

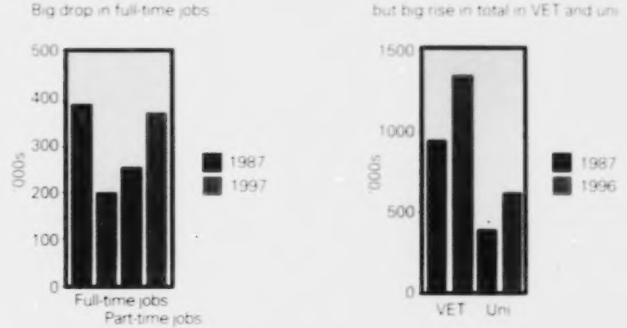


Source: Australian Bureau of Statistics (ABS), *Labour force, Australia*, cat.6203.0, 1987–1997

Another dramatic change in the Australian labour market since 1987 has taken place in the youth labour market. In November 1987 there were about 650 000 employed persons aged 15–19 in the Australian workforce. By November 1997 this total had fallen to 586 000, or by more than 10%. But more dramatic for young people has been the loss of full-time jobs. In November 1987 over 60% of teenage employment was full time, about 394 000 jobs. By November 1997 full-time jobs had fallen to just 35% of total teenage jobs or just over 200 000 full-time jobs in total. Over the 11 years teenage full-time jobs declined by nearly 188 000 or by over 47%. The rise of about 120 000 in teenage part-time jobs did not offset the fall in the full-time teenage labour market.

This decline in teenage full-time employment occurred as places in full-time post-compulsory education were rising. Between 1987 and 1996 the number of students at university in Australia rose by about 60%, while the number of persons enrolled in VET rose by 44.5% over the same period. The number of apprentices, however, declined between 1987 and 1997 by over 11%.[1] Changes in education will be examined in more detail later in this chapter.

Chart 2: Growth ('000s) in teenage employment and total VET and university enrolments, Australia, 1987 to 1997



Note: The enrolment data for VET and university covers all age groups

Source: ABS, *Labour force, Australia*, cat.6203.0, 1987–1997; Department of Employment, Education, Training and Youth Affairs (DEETYA), *Selected higher education student statistics, 1997*

The labour market changes noted in chart 2 reflect some of the economic changes that have driven the Australian economy since the late 1980s. Perhaps the most important economic issue to have influenced the labour market over the period has been the increasing integration of the Australian economy into world markets as levels of protection for Australian manufacturing have fallen and the mix of Australian exports has changed rapidly. The rapid reorientation in Australia's economy is, perhaps, best exemplified by the growth in manufactured exports between the mid-1980s and the mid-1990s. During this period, exports of manufactured goods averaged annual growth of 6.8% and made the major contribution to the growth in Australian exports. The decline in the importance of full-time employment is a reflection of the slower growth or decline that has occurred in those industries dominated by full-time, male employment, especially manufacturing; agriculture, forestry and fishing; the utilities; construction; and transport and storage. Efficiencies in these industries appear to have been achieved through a combination of technological changes and workforce reductions, rather than through more flexible working hours.

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[1] NCVER, Australian training statistics, September 1997 data collection

Employment growth has been strongest in those industries where either male and female numbers are fairly even or where females predominate. Prominent among these industries are property and business services; health and community services; accommodation, cafés and restaurants; and retailing. At least some of the efficiency growth in these industries has probably derived from the more flexible use of workers in part-time employment. Charts A4–A6 in the notes at the end of this chapter show employment changes, by industry, between 1987 and 1997. The following table summarises those changes.

Table 1: Employment change by industry division, Australia, 1987 to 1997

Industry division	**Employment level, '000s**		**% growth**
	Nov-1987	Nov-1997	1987–1997
Agriculture, forestry and fishing	402.1	457.9	13.88
Mining	100.0	83.2	-16.80
Manufacturing	1172.5	1137.6	-2.98
Electricity, gas and water	124.4	64.8	-47.91
Construction	496.2	597.1	20.33
Wholesale trade	439.2	492.1	12.04
Retail	1035.8	1277.5	23.33
Accommodation, cafés and restaurants	266.7	402.7	50.99
Transport and storage	373.3	389.0	4.21
Communication services	144.0	148.8	3.69
Finance and insurance	325.7	307.5	-5.59
Property and business services	484.8	873.1	80.09
Government administration and defence	345.2	351.5	1.83
Education	486.1	586.8	20.72
Health and community services	582.8	798.5	37.01
Cultural and recreational services	140.9	210.3	49.25
Personal and other services	256.6	343.1	33.71

Source: ABS, *Labour force, Australia*, cat.6203.0, 1987–1997

The above table, of course, simplifies much more complex changes occurring at both the industry division and sub-division level. Some industries have shown cyclical fluctuations in their employment levels, some declined between the above dates and subsequently recovered, while others peaked between the above dates and have subsequently declined. The reader is referred to the chapters in this book on each industry division for a more detailed analysis of industry employment trends and to charts A4–A6 in the notes at the end of this chapter.

Perhaps the most striking feature of table 1 is how substantially over the last 11 years the employment growth rates of industries have varied. Only five industries grew by an amount more than five percentage points above the overall level of employment growth. Charts A4–A6 in the notes present, in graphic form, the growth patterns of all 17 industry divisions.

The growth in the property and business services industry was the highest of all industry divisions, partly because of the growing practice in many other industries of outsourcing. To quote from the chapter on that industry:

> *. . . the number of own-account workers more than doubled over the period 1987–1997. By comparison, the growth across all industries in 'own-account' workers was only 23.6% over that time. Numerically, the growth in own-account workers was 54 900 over the period 1987 to 1997, accounting for over 14% of the total growth in the industry. Male own-account workers in property and business services rose by nearly 93% , while females rose by over 135% over the 1987–1997 period.*

This rise, in part, results from a transfer of some workers ceasing to be employees and becoming contract workers from other industries—those adopting outsourcing policies—into the 'business services' part of property and business services.

Other industries that contributed most to sustained employment growth over the period were retailing; accommodation, cafés and restaurants; health and community services; and education.

Changes in weekly hours worked

Table 2 shows how average weekly hours worked have changed across the industry divisions. In line with the comments made earlier about full-time and part-time employment changes, it is apparent from the above table that the industries in which working hours have increased are typically the slowly growing or declining industries characterised by a high proportion of male, full-time employment. It appears that rather than adjusting through introducing more flexible working hours, these industries have tended to increase overtime or encourage additional unpaid hours.

Those industries that have shown a strong rise in part-time employment such as retailing, and accommodation, cafés and restaurants have, naturally enough, shown a reduction in average weekly working hours. Several industries are also characterised by a relatively high proportion of their workforce working 49 hours or more per week. Foremost among these is agriculture, forestry and fishing, in which 46% of the workforce works these long hours. Other industries with high proportions of their workers working 49 hours or more a week are:

❖ mining	34%
❖ transport and storage	30%
❖ construction	28%
❖ property and business services	23%
❖ wholesale trade	22%

Table 2: Changes in average weekly hours worked, 1987–1997

Industry division	Average weekly hours worked		
	Nov-1987	Nov-1997	Change
Agriculture, forestry and fishing	47.1	46.5	–0.6
Mining	39.4	43.9	4.5
Manufacturing	36.8	37.8	1.0
Electricity, gas and water	33.6	36.6	3.0
Construction	38.0	39.5	1.5
Wholesale trade	38.5	37.9	–0.6
Retail	34.1	31.2	–2.9
Accommodation, cafés and restaurants	33.9	31.7	–2.2
Transport and storage	38.3	40.3	2.0
Communication services	32.0	35.0	3.0
Finance and insurance	35.1	35.3	0.2
Property and business services	36.4	36.7	0.3
Government administration and defence	34.0	33.7	–0.3
Education	32.9	33.8	0.9
Health and community services	31.5	30.4	–1.1
Cultural and recreational services	33.8	30.5	–3.3
Personal and other services	31.4	33.6	2.2
Total	**35.9**	**35.6**	**–0.3**

Source: ABS, *Labour force, Australia*, cat.6203.0, 1987–1997

Males represent more than 80% of those workers working 49 hours or more a week, although males make up only about 67% of all full-time workers. Two separate issues emerge from this finding:

- the impact of longer working hours for some workers on the creation of jobs for others, especially young people, and
- whether this increase in working hours for mainly male full-time workers is a source of disadvantage for full-time employed females

In relation to the second point, it seems to be of significance that as at November 1997, 38.5% of all males working 35 hours or more a week worked 49 or more hours while only 20.5% of females working 35 hours or more worked these longer hours. It could be argued, of course, that longer working hours are most likely to be worked by those in the most senior and responsible positions and, reflecting past labour market conditions, these people are more likely to be males. However, if working these longer hours is widely regarded as a prerequisite for promotion to senior positions then the equity implications, especially for women, of this significant social trend could warrant further analysis.

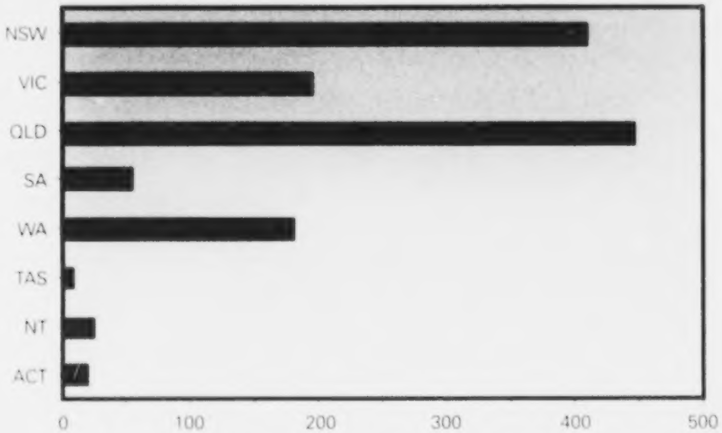
From time to time the issue of whether an increase in working hours for those already working full time has a negative impact on job creation has been debated, most recently in France. While it would be naïve to argue that a simple transfer of hours from those working long hours to the young unemployed would be possible, it would also be fair to argue that the dimension of the issue is poorly appreciated in the wider community. *Purely to provide an indication of this dimension,* if just one hour of the time being worked by persons working 49 or more hours a week (who numbered over 1.7 million in November 1997) were used to employ a full-time worker, about 50 000 jobs would be created. There were, as at November 1997, 77 800 persons aged 15–19 unemployed seeking full-time employment.

From the perspective of the VET sector, the issue is of importance for several reasons. One implication of the wider use of structured training under New Apprenticeships is that existing employment within enterprises, particularly those not previously employing trainees, may need to be restructured to accommodate trainees and to provide them with useful work experience. A more general implication for VET is the likely longer-term impact of an increasingly skilled and trained workforce on how responsibilities in the workplace are distributed and rewarded.

Employment changes by State

Over the last 11 years, employment growth has not occurred evenly across the States and Territories as the following chart shows. Queensland has accounted for the largest number of new jobs since November 1987, closely followed by New South Wales, although Queensland has only about half the total number of jobs as New South Wales. Despite having less than half the jobs of Victoria, Western Australia has created nearly as many new jobs over the 11 years as has Victoria.

Chart 3: Employment growth ('000s) by State/Territory, 1987–1997



Source: ABS, *Labour force, Australia,* cat.6204.0, 1995; ABS, *Labour force, Australia,* cat.6203.0, November 1997

Both of the Territories have created more jobs than Tasmania, despite having overall smaller labour markets. These regional variations in employment growth reflect the nature of the economic base in the States and Territories, with the export-based resource and tourism industries in Queensland, New South Wales and Western Australia generating much of the impetus for employment growth.

Employment within States and Territories has also not grown evenly, with some geographical areas growing strongly and others declining.

The changing occupational composition of the Australian labour force

The broad changes occurring in the Australian labour market in terms of industry, gender and hours worked are important to the VET sector in appreciating the basis for broad shifts in both the pattern of usage of training resources and in the delivery of VET. They indicate, for example, the substantial rise in the importance of the services sector, the female labour market and of part-time employment across most industries. An education and training system must respond appropriately and in a timely fashion to these major changes in order to remain relevant in both its social and economic roles.

More significant for the *content* of training courses, however, are the changes in the occupational structure of the Australian labour market, as these highlight the changing nature of specific skills in demand in that labour market. The following table shows the changes at the major occupational group level. The same data are presented graphically in chart A3 in the notes at the end of this chapter.

Table 3: Changes in employment by major occupational group, Australia, 1987–1996

Occupational group	Employment ('000s) 1987	Employment ('000s) 1996	% change
Managers and administrators	783.8	889.4	13.5
Professionals	868.7	1171.2	34.8
Para-professionals	427.0	476.7	11.6
Tradespersons	1128.6	1200.8	6.4
Clerks	1224.5	1360.4	11.1
Salespersons and personal service workers	989.1	1409.9	42.5
Plant and machine operators and drivers	566.2	571.0	0.8
Labourers and related workers	1112.3	1221.4	9.8
Total	**7100.2**	**8300.8**	**16.9**

Source: ABS, *Labour force, Australia*, cat.6203.0, 1987–1996

As with changes at the major industry level, changes by occupational group have varied considerably, with significant growth confined to just two categories: professionals, and sales and personal service workers. All other occupational groups grew more slowly than the overall average for the period. Numerically, most new jobs were created in the sales and personal service workers group, with over 420 000 additional jobs followed by the professional group with just over 300 000 more jobs.

Table A2 in the notes at the end of this chapter provides a detailed picture of the occupational structure of the Australian labour market (at the 4-digit Australian Standard Classification of Occupations [ASCO] level) by level of educational attainment as at the 1996 Census.

Between 1987 and 1996 a number of striking changes occurred in the labour market at the minor occupational group (or 2-digit ASCO) level. Table 4 below shows those minor occupational groups that grew by more than twice the level of all occupations, while table 5 shows those occupational groups that actually declined over the decade.

Table 4: High growth occupations at the minor group level, Australia, 1987–1996

	Growth 1987–1996	
Minor occupation group	No. ('000s)	%
Specialist managers	59.4	36
Managing supervisors (not sales and service)	31.8	35
Health diagnosis and treatment practitioners	31.0	36
Other teachers and instructors	43.6	53
Social professional	25.4	49
Business professionals	139.8	85
Misc. professionals	21.8	59
Medical and science technical officers and technicians	15.8	68
Amenity horticulture trades	15.1	34
Data processing operators	39.1	47
Receptionists/telephonists and messengers	72.9	45
Sales representatives	36.1	38
Sales assistants	170.3	39
Tellers/cashiers/ticket sales	53.5	44
Personal service workers	93.1	80

Source: ABS, labour force survey, unpublished analysis of data

The above table highlights the specific nature of jobs growth in the last decade at the minor group level, with strong growth in several professional areas and in several sales and clerical areas. Some of the specific occupations that showed the strongest growth, both within some of these groups and separate from them, are examined later in this chapter.

Given that overall employment rose by around 17% in the ten years to 1996, it is then, perhaps, more striking that several minor occupational groups actually declined over the period. These are shown in the following table.

From the following table the numerical decline in the two clerical areas listed dominates the picture of job losses over the decade. However, when read in conjunction with the preceding tables, it is apparent that there has been a shift in the nature of clerical jobs over the decade—especially away from typist/stenographer positions—towards positions described as receptionists and data processing operators.

It is likely that there was some movement of individuals from declining occupations into the growth areas within the clerical group. Overall, clerical jobs grew over the decade but at a lower rate than total employment. The occupation of numerical clerk was, in fact, the third largest occupation in terms of growth in numbers between 1987 and 1996, although its percentage growth was only moderately high at 2.9% per annum.

Table 5: Minor occupational groups that declined in numbers, Australia, 1987–1996

Minor occupational group	Change in employment Number ('000s)	%
Farmers and farm managers	**–20.0**	**–8**
Engineering and building associates and technicians	–8.9	–10
Metal fitting and machining trades	**–18.4**	**–14**
Printing trades	–4.5	–10
Stenographers and typists	**–26.9**	**–10**
Miscellaneous clerks	–78.4	–45
Stationary plant operators	**–6.5**	**–10**
Machine operators	–31.7	–19
Construction and mining labourers	**–24.9**	**–18**

Source: ABS, labour force survey, unpublished analysis of data

A similar pattern emerges for trade-level jobs. Over the decade, their numbers grew more slowly than jobs in general. Several trade categories, especially metal fitting and machining and other metal and electrical trade jobs (apart from electrical mechanics and office equipment/computer servicers), fell over the decade while some other trade areas, noticeably amenity horticulture, grew strongly.

Unlike positions in the clerical area, there was probably not much movement of individuals between the declining and growing areas within the trades occupations.

Among professional occupations, more than 60% of the total growth over the decade of just over 300 000 was attributable to seven occupations:

❖ computing professionals	up 64 700
❖ accountants	up 33 100
❖ extra-systemic teachers and instructors	up 24 900
❖ personnel specialists	up 19 400
❖ other business professionals	up 15 900
❖ lawyers	up 12 600
❖ university teachers	up 12 100

Qualifications profile of the Australian labour force

At the 1996 Population Census, 41.5% of the employed Australian workforce possessed some form of post-school qualification, up from 37% in 1991. Table 6 shows that in only two major occupational categories, professionals and tradespersons, did a majority of workers have formal post-school qualifications.

The low proportion of workers in the growing areas of clerical, sales and service occupations possessing formal qualifications reinforces the need for the VET sector to ensure that its provision is relevant to these growth sectors.

Educational qualifications are not distributed evenly between the age groups among the Australian workforce.

Table 6: Proportion of employed workforce possessing post-school qualifications by major occupational group, Australia, 1996 Census

Major occupational group	% with post-school qualification
Managers and administrators	48.5
Professionals	80.3
Associate professionals	45.1
Tradespersons and related workers	58.7
Advanced clerical and service workers	27.5
Intermediate clerical, sales and service workers	26.3
Intermediate production and transport workers	20.3
Elementary clerical, sales and service workers	16.0
Labourers and related workers	14.8

Source: ABS, 1996 Census of population and housing

The following table shows how qualifications are distributed by age group.

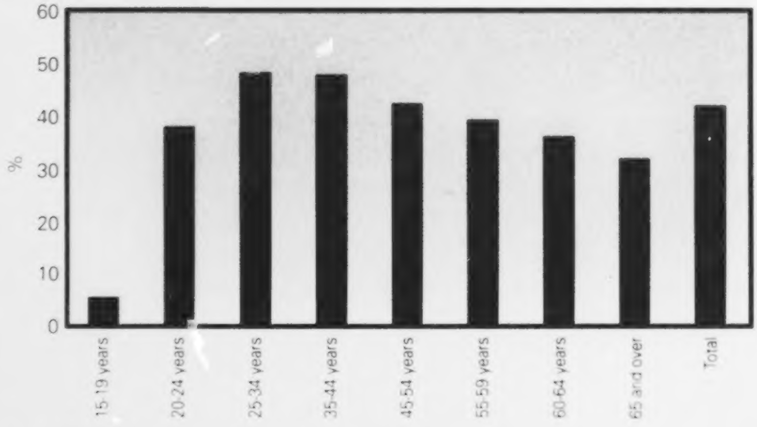
Table 7: Educational attainment of workforce by age group, Australia, 1996

Educational qualification	20–24 years	25–34 years	35–44 years	45–54 years	55–59 years	60–64 years	65 and over
Bachelor degree or higher	117 247	365 024	374 727	240 290	47 582	20 388	15 788
Undergraduate diploma	18 116	76 586	116 361	92 294	22 260	9 636	5 933
Associate diploma	46 646	83 424	71 266	54 543	11 912	4 568	2 444
Skilled vocational qualification	109 239	324 272	306 955	227 075	65 811	30 811	12 656
Basic vocational qualification	40 268	76 171	80 479	54 561	10 903	4 316	2 085

Source: ABS, 1996 Census of population and housing

The growing availability of places in both the VET sector and in universities has provided increasing numbers of persons access to formal educational qualifications.

Chart 4: Employed persons with post-school qualifications by age group, Australia, 1996



Source: ABS, 1996 Census of population and housing

Chart 4 summarises the data provided in table 7. From this chart the growing level of the workforce with qualifications is evident. Nevertheless, despite the growing level of access to education and training, there is still no age group in which more than 50% holds a post-school credential.

Statistical data on participation in education by individual age indicates that by the age of 19, the majority of the Australian population is not engaged in education. According to *Participation in education*, only 55% of the Australian population aged 19 was engaged in secondary or tertiary-level education as at September 1997.[2]

Training in Australia

Table 8: Distribution of government-funded VET activity—1998 estimates

Training area	Annual hours curriculum ('000s)	% share of total
Arts, entertainment, sport and recreation	12 699	5.2
Automotive	8 556	3.5
Building and construction	16 251	6.6
Community services, health and education	23 561	9.6
Finance, banking and insurance	3 014	1.2
Food processing	3 557	1.4
TCF and furnishings	4 970	2.0
Communications	2 110	0.9
Engineering and mining	15 605	6.3
Primary industry	13 037	5.3
Process manufacturing	613	0.2
Sales and personal service	7 919	3.2
Tourism and hospitality	19 351	7.9
Transport and storage	2 325	0.9
Utilities	11 336	4.6
Business and clerical	41 667	16.9
Computing	13 283	5.4
Science, technical and other	9 827	4.0
General education and training	36 225	14.7
Unallocated	280	0.01
Total	**246 187**	**100.0**

Note: TCF – textiles, clothing and footwear

Source: ANTA, *Directions and resource allocations for 1998*, <www.anta.gov.au>

Around $3.3 billion is currently spent annually on VET in Australia by governments under the Australian National Training Authority (ANTA) Agreement. In addition, it is estimated that employers in Australia annually spend about $2.5 billion on training, not counting the wage and salary costs for the time employees spent in training. In

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[2] ABS, *Participation in education, Australia*, cat.6272.0, September 1997

1997 there were about 1.46 million client enrolments in VET courses funded by governments. Table 8 shows the approximate distribution of government-funded VET activity between the ANTA-defined 'training areas'.

ANTA has commented that States and Territories are progressively shifting their planning systems to take account of the needs of industry as well as other client groups and that the continuing evolution of a demand-focussed planning model for VET is required. The directions in which resource allocations have moved—towards areas such as business and clerical, community services, health and education, and tourism and hospitality—indicate that some key features of the changing labour market are finding an appropriate response from the VET systems.

VET in Australia is not simply that part of the training system delivered by governments. As noted above, employers spend amounts comparable with governments on providing training to their own employees.

In 1993 and 1996 the Australian Bureau of Statistics (ABS) surveyed employers to determine their levels of expenditure on structured training in the September quarter of those years.[1] That survey found substantially different levels of training effort between industries and also noted a decline between 1993 and 1996 in the amount of structured training being provided by employers. Nevertheless, total employer expenditure on structured training did rise over the three-year period. Some of the main findings from the survey were:

- The proportion of employers providing structured training in the September quarter fell from 22.6% to 17.8% between 1993 and 1996.
- Training expenditure per employee fell from $191 to $185 over the period.
- The proportion of gross wages and salaries spent on structured training in the September quarter declined over the period from 2.86% to 2.54%.
- Structured training hours per employee in the September quarter fell from 5.55 hours to 4.91 hours over the three years.

Despite this overall reduction in training commitment, some industries went against the trend and increased their expenditure on structured training per employee, while others significantly reduced their expenditure. An important factor driving the reduction in expenditure appeared to be the declining proportion of employers actually providing structured training in the three-month period of the survey.

Several comments should be made about the findings of this survey. First, despite reducing its expenditure sharply, communications remained a high spender in absolute terms, spending over $317 per employee, although the other industries that reduced their spending tended to be low spenders overall.

Second, within several industries there were marked differences between industry sub-divisions. While these are examined in more detail in the individual industry chapters in this book, the main points are:

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[1] ABS, *Employer training expenditure, Australia*, cat.6353.0, July–September 1996

- In manufacturing a number of sub-divisions—wood and paper products, machinery and equipment, and non-metallic mineral products—increased their structured training expenditure.
- Air transport outspent other parts of transport by more than 3 to 1.
- Non-building construction outspent other parts of construction by nearly 4 to 1.

Most industry-provided structured training was allocated to management and professional training, while most hours also went to this category, followed by trade and apprentice training.

The following table summarises the percentage change in expenditure on structured training in the September quarter over the three years by industry.

Table 9: Industry changes in expenditure on structured training in the September quarter, Australia, 1993–1996

Industry	Percentage change in training expenditure per employee
Mining	+30.5
Manufacturing	–5.5
Electricity, gas, water	+25.6
Construction	–25.5
Wholesale	–15.5
Retail	+18.7
Accommodation, cafés and restaurants	–14.6
Transport and storage	+13.1
Communication services	–29.6
Finance and insurance	+13.0
Property and business services	–15.2
Government administration	+11.2
Education	+23.1
Health and community services	–13.6
Cultural and recreational services	–17.6
Personal and other services	+1.3
All industries	**–3.0**

Source: ABS, *Employer training expenditure, Australia,* cat.6353.0, July–September 1996

Several methods are used by the VET sector to determine how well government expenditure is meeting the needs of employers and the labour market, the main ones being two large-scale surveys, the survey on employer satisfaction with VET for 1997 (ESS) and the technical and further education (TAFE) graduate destination survey for 1997 (GDS). Both of these surveys were compiled by the National Centre for Vocational Education Research (NCVER) and were last undertaken in 1997. Generally they showed quite good levels of satisfaction with the system from both employers and recent TAFE graduates. The following sections briefly examine the main findings from those surveys and highlight those areas in which the system appears to be functioning well and those areas where improvements are necessary to meet consumer demands.

The 1997 ESS

In the 1997 ESS, 2687 employers were surveyed. Some of the major findings of this survey were:

- Retailing was the largest employing industry of recent VET graduates.
- Graduates who had completed an apprenticeship were most likely to be found in electricity, gas and water; construction; and manufacturing.
- Graduates recently completing a traineeship were most common in finance and insurance; government administration; and agriculture, forestry and fishing.
- Graduates completing certificates or diplomas were most likely to be found in health and community services; government administration; education; and finance and insurance.
- Finance and insurance was much more likely to have used non-TAFE providers than any other industry.
- Of employers surveyed, only 75% employed VET graduates from TAFE colleges, while 16% only used non-TAFE providers.
- Large employers were more likely to use a combination of TAFE and non-TAFE providers.

Employers in the survey were asked to rate their level of satisfaction with VET providers on a 10-point scale. The mean overall satisfaction rating recorded was 6.7, while the rating for TAFE was marginally lower at 6.6. Satisfaction levels varied both according to State and to industry. The following table shows the mean VET satisfaction rating by State.

Table 10: Mean satisfaction with VET by State/Territory

NSW	Vic	Qld	SA	WA	Tas	NT	ACT	Aust
6.5	7.1	6.5	6.8	6.7	6.7	6.4	6.5	6.7

Source: NCVER, *Employer satisfaction with vocational education and training 1997: National report*

Levels of satisfaction with VET also varied between industries, and most markedly on an industry basis between the States. In overall terms, the most satisfied industries were construction, government administration, and education, which all rated 7. The least satisfied industries were accommodation, cafés and restaurants 5.7, mining 6.1, and transport and storage 6.5. The low overall ratings in these industries disguised quite high satisfaction levels in some States in those industries.

At least two results stood out as warranting further investigation. In accommodation, cafés and restaurants, all States other than New South Wales rated 6.2 or better, whereas New South Wales rated only 4.8. Given the size of the industry in that State, and its growth potential, this issue requires further analysis.

In the Northern Territory the mining industry gave a low 4.7 rating to VET, although it is not clear whether the sample size in this case is large enough to produce a meaningful result. By way of contrast, in South Australia VET received a high 7.3 rating from the mining industry.

Employers were also asked to identify those aspects of the VET system that they regarded as the highest priorities for improvement. There were 12 categories in this question, with five of the 12 categories accounting for nearly 63% of the responses. The following table shows the areas identified by employers as being the first priority for improvement and the percentage of employers nominating that item.

Table 11: Priority areas for improvement of VET

Area for improvement	% of employers giving area first priority for improvement
Graduates' work ethic	14.6
Relevance of course content	13.0
Graduates' work skills	12.0
Ability to work without supervision	12.0
Teachers' ability and experience	11.1

Source: NCVER, *Employer satisfaction with vocational education and training 1997: National report*

These priorities varied between industries. Several industries regarded other issues as being the first priority for service improvement. For example, the need for a better balance between theory and practice in VET courses rated highly in mining (their first priority) and transport and storage (their second highest priority).

Flexible delivery also figured prominently as a priority in several industries, especially agriculture, forestry and fishing where it was the second highest priority; in education where it rated highest; and in electricity, gas and water where it rated third highest.

In the three most important destination industries for VET graduates—health and community services, retailing, and manufacturing—the following areas were the major priorities for improvement.

Table 12: Priorities for improvement among main employing industries

Health and community services	Retailing	Manufacturing
1 Teacher ability and experience (16.1%)	1 Ability to work unsupervised (17.5%)	1 Relevance of course content (17.3%)
2 Balance theory and practice (14.2%)	2 Graduates' work skills (12.4%)	2 Graduates' work ethic (17.2%)
3 Graduates' work ethic (13.9%)	3 Graduates' work ethic (12.0%)	3 Ability to work unsupervised (14.5%)

Note: Shows percentage of employers identifying this item as the first priority for service improvement

Source: NCVER, 1997 employer satisfaction survey, unpublished data

The 1997 TAFE GDS

In the 1997 TAFE GDS, all TAFE graduates who had completed courses of at least 200 hours or one semester's duration in 1996 were included in the survey. In total, 110 409 graduates were surveyed of whom 60 746 responded, a response rate of 55%.

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A wide range of data are available on the employment outcomes of the graduates surveyed, including on an industry and State basis. The main findings of this survey are summarised below, after which there is a close examination of industry differences in levels of satisfaction and areas identified by graduates as requiring improvement.

Perhaps the most important finding of the survey is the ageing of TAFE graduates. At the 1997 survey the mean age of graduates was 31 years, up from 29 years in the previous 1995 survey. This finding serves to dispel the impression in some quarters that TAFE is largely focussed on provision for school leavers in apprenticeship and traineeship courses. It also highlights the sector's distinction from universities that still focus predominantly on providing 'up-front' education for subsequent entry to the labour market. TAFE and VET more generally are clearly important in providing access to occupational mobility for workers who have had previous involvement in the mainstream labour market.

Most graduates undertook their course for vocational reasons. The following table shows the major reasons given by graduates for undertaking their course and whether they either fully or partly achieved their aim.

Table 13: Reasons for undertaking course and success

Reason	Number	% fully or partly achieving aim
Get a job or business	10 593	81.4
Try for different career	5 381	72.3
Get better job/promotion	6 425	72.3
Requirement of job	5 939	95.3
Get extra skills for job	7 173	94.5
Get into other course	1 464	86.6
Interest or personal development	4 823	94.4

Source: NCVER, 1997 TAFE graduate destination survey, unpublished data

Some of the other important findings were:

- 71% of graduates were employed, 15.1% were unemployed and 13.8% were not in the labour force
- 46.2% of graduates unemployed before starting their TAFE course had found jobs by the time of the May 1997 survey
- 56.4% of the graduates were women, up from 54.7% in 1995
- 1.3% of graduates were of Aboriginal or Torres Strait Islander (ATSI) origin, 32.2% were of non-English-speaking background and 6.1% had some form of disability
- 76.3% of the graduates who had been at school before starting the course were employed at the time of the survey
- 76.6% of graduates did their course for vocational reasons and 78.4% at least partly achieved their objectives in doing the course

The overall employment outcomes were consistent with broad labour market changes discussed earlier. Reinforcing the findings of the ESS, the GDS found that just over half of the graduates were employed in four industries: health and community services, retailing, manufacturing, and property and business services. Again, reflecting the occupational trends discussed earlier in this chapter, increasing numbers of graduates were entering sales and personal service occupations and declining numbers were finding trades jobs compared with the 1995 survey. A slightly higher proportion than in 1995 were employed in part-time jobs, while the proportion of the total (including those not in the labour force) employed in full-time jobs declined from 51.5% in 1995 to 47.3% in 1997.

There was a very marked difference between males and females in full-time and part-time employment outcomes. Overall, the employment rate (that is, the proportion employed in either full-time or part-time jobs) for females was only 65.8% compared to a rate of 77.7% for males. Only 34.8% of females were employed full time, while 63.4% of males found full-time jobs. Full-time employment was also much harder to find for members of other equity groups. ATSI people achieved a full-time employment rate of 34%, while only 39.4% of non-English-speaking background people found full-time jobs. Most disadvantaged were those with a disability—only 29.5% were in full-time jobs and they experienced the highest unemployment rate of 24.5%.

Employment outcomes varied according to a range of characteristics, particularly by the field of study undertaken and the level of course. By field of study (and ignoring the three very small fields of law, education and veterinary science), the highest rates of employment were attained by students undertaking courses in architecture/building, land and marine resources/animal husbandry, health and community services, services/hospitality/transportation and in business/administration/economics.

Students who had taken courses in the TAFE multi-field education and arts/humanities and social sciences fields experienced the highest unemployment rates. This should not, however, be taken as a league table of success rates by field of study. The personal characteristics of students taking these courses vary substantially, with many of the multi-field education courses targetted at the most disadvantaged students. Employment outcomes were also best for students undertaking higher-level and especially trade courses, although those completing advanced diploma-level courses had achieved only moderate outcomes. The highest unemployment rates were found among those undertaking certificate I and II and certificate (other) courses.

On a State basis, graduates in Tasmania and South Australia achieved the highest employment outcomes, while the highest unemployment rates were found among graduates in Queensland and Victoria. Average weekly earnings for graduates in full-time employment were $550, with male graduates averaging $587 and females $500. This pattern of unequal earnings was found across all industries. However, the gap between male and female full-time earnings varied considerably between industries, with the largest gaps occurring in mining, personal and other services, and transport and storage. Full-time workers in sales and personal service occupations recorded the lowest full-time weekly earnings of only $380. Graduates working full-time on average worked 42 hours per week. Graduates were asked in the survey to rate 13 aspects of their course on a 10-point scale, with 10 being the best.

The following table summarises the findings from this question by grouping all responses giving a rating of 7 or better on each of the 13 items.

Table 14: Graduates' satisfaction ratings for aspects of their course

Item	% scoring 7 or better
Instructors' knowledge of course content	85.2
Course content reflects industry practice	72.2
Presentation of course material	73.2
Quality of equipment for practising skills	62.2
Availability of equipment for practising skills	60.0
Information received when choosing course/subjects/modules	58.6
Information on careers and jobs	41.1
Usefulness of course for job prospects	71.8
Qualification well regarded by employers	64.9
Balance between instruction and practice	69.8
Making methods of assessment clear	78.5
Convenience of venue and times	75.3
Overall quality of course	84.1

Source: NCVER, 1997 TAFE graduate destination survey, unpublished data

Generally speaking, these results occurred quite consistently across all the industries in which graduates were employed. The major themes that emerge from this question on satisfaction with aspects of their course are clear. Information on future career prospects and options is not being provided adequately or in a manner that graduates found helpful. Graduates working in all industries gave this item their lowest rating, with only graduates in health and community services giving a rating of 50% or better. In communications, and finance and insurance, graduates rated this item only a 27% on the measure used in the above table.

Many Australian governments have reduced careers advisory services in recent years at the same time that rapid labour market changes have been occurring. The findings from this survey appear to confirm that this reduction has caused many students to be receiving inadequate advice on choosing courses relevant to the changing labour market.

The other theme that emerges from these findings is concern over the quality and availability of equipment for students to use during their course of study. Industries where these issues were of particular concern were communications, and finance and insurance.

Notes

The following table is extracted from the ANTA resource allocations for 1998 document, available at their website. It shows the planned allocations of government-funded training between the ANTA-defined 'training areas' in terms of 'annual hours curriculum' (AHC).

Table A1: Key national shifts in activity between 1997 revised estimates and 1998 projected activity (AHC '000s)

Industry training area	1997 revised	1998 projected	Total shift	Total shift as % of 1997 revised	% of overall shift
Category A					
Arts, Entert, Sports & Rec	12 849	12 699	–150	–1.17	–5.74
Automotive	8 349	8 556	207	2.48	7.94
Building and Construction	16 095	16 251	156	0.97	5.98
Comm Services, Health & Ed	23 368	23 561	193	0.83	7.40
Finance, Banking & Insurance	2 898	3 014	116	4.01	4.45
Food Processing	3 309	3 557	248	7.50	9.50
TCF and Furnishings	4 941	4 970	30	0.60	1.14
Communications	1 998	2 110	112	5.60	4.29
Engineering and Mining	15 274	15 605	331	2.17	12.68
Primary Industry	12 492	13 037	545	4.36	20.88
Process Manufacturing	551	613	63	11.40	2.41
Sales and Personal Service	7 370	7 919	549	7.44	21.01
Tourism and Hospitality	18 667	19 351	684	3.66	26.19
Transport and Storage	1 711	2 325	614	35.91	23.53
Utilities	11 380	11 336	–44	–0.39	–1.70
Category B					
Business and Clerical	42 237	41 667	–571	–1.35	–21.87
Computing	13 106	13 283	177	1.35	6.78
Science, Technical and Other	10 153	9 827	–326	–3.22	–12.50
Category C					
Gen Education and Training	36 524	36 225	–299	–0.82	–11.45
Unallocated	304	280	–24	–7.80	–0.91
Total	**243 576**	**246 187**	**2 611**	**1.07**	**100.00**

Note: TCF – textiles, clothing and footwear

Source: Publications, *ANTA Resource Allocations 1998*, <www.anta.gov.au>

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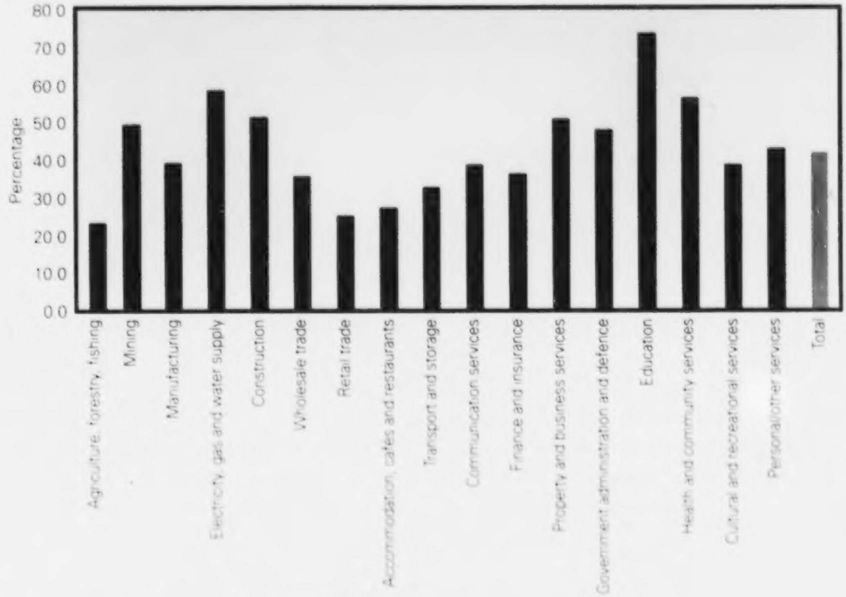
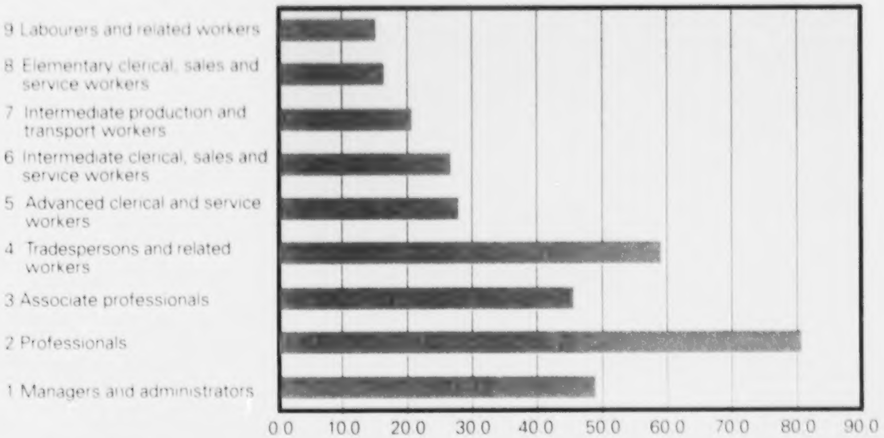
Chart A1: Proportion of labour force with post-school qualification by industry division, Australia, 1996 Census



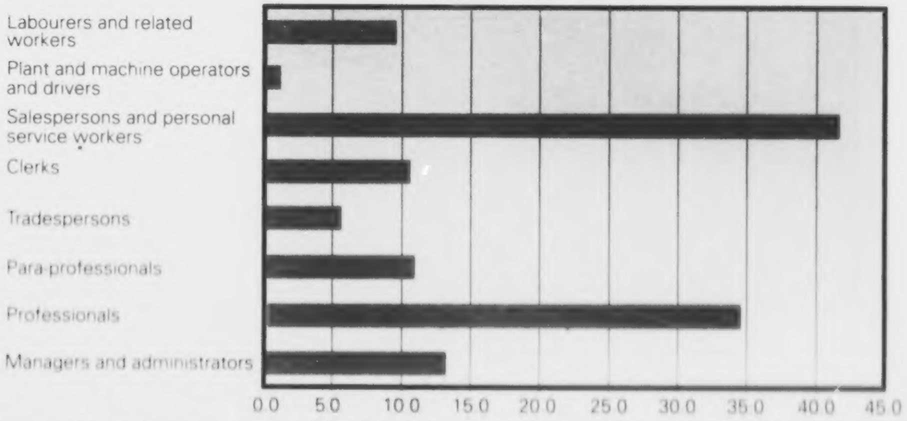
Source: ABS, 1996 Census of population and housing

Chart A2: Proportion of labour force with post-school qualification by major occupational group, Australia, 1996 Census



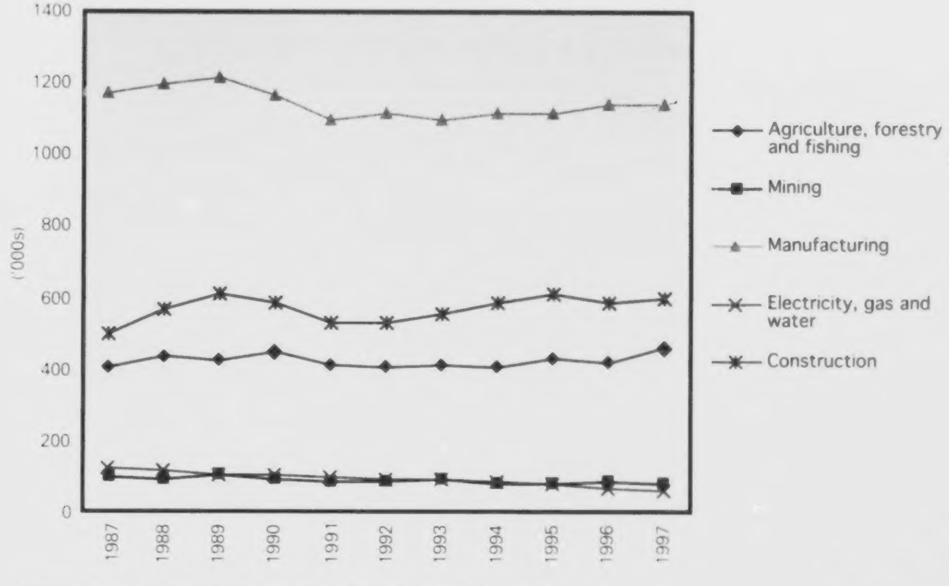
Source: ABS, 1996 Census of population and housing

Chart A3: Occupational groups, % change 1987–1996, Australia



Source: ABS, Labour force survey, unpublished data

Chart A4: Employment trends, selected industries, Australia, 1987–1997



Source: ABS, *Labour force, Australia*, cat.6203.0, 1987–1997

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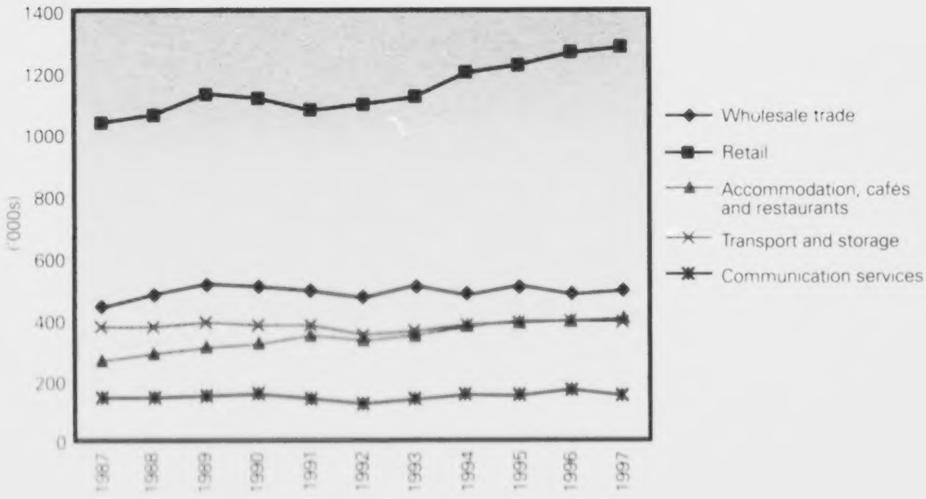
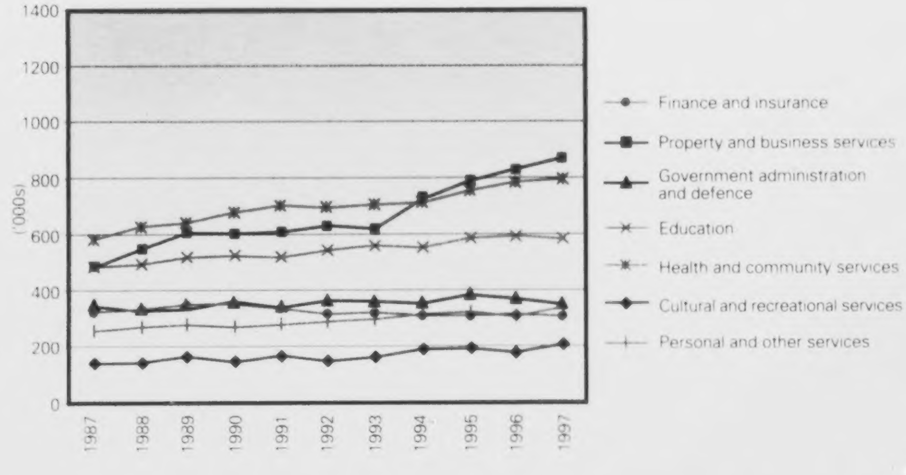
Chart A5: Employment trends, selected industries, Australia, 1987–1997



Source: ABS, *Labour force, Australia*, cat.6203.0, 1987–1997

Chart A6: Employment trends, selected industries, Australia, 1987–1997



Source: ABS, *Labour force, Australia*, cat.6203.0, 1987–1997

Chart A7: Total employment, Australia, 1978–1997 plus linear trend projection to 2004

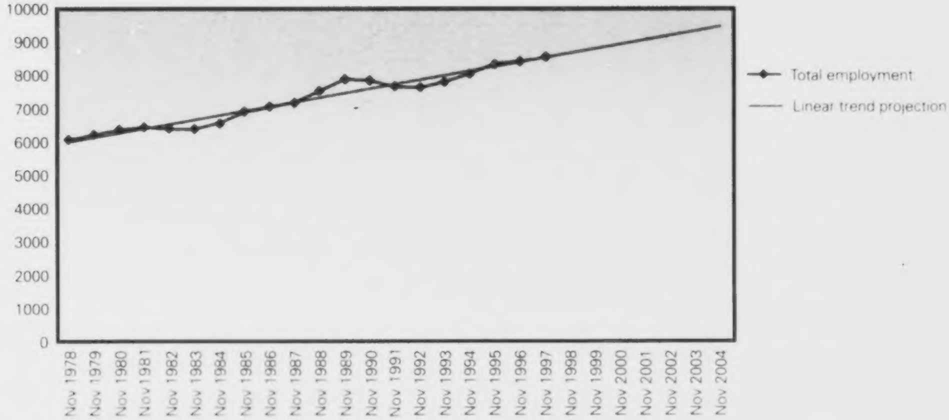


Table A2: Educational attainment of employed persons by industry, occupation (4-digit ASCO) and type of post-school qualification at 1996 Census

ASCO code and occupation	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
1000 Managers and Administrators nfd	13 008	3 979	2 812	12 309	2 646	34 754	6 391	36 007	77 152
1100 Generalist Managers nfd	23	6	10	47	7	93	17	64	174
1110 Gen Managers and Administrators nfd	6	3	0	0	0	9	3	12	24
1111 Legislators and Govt Appt Officials	1 973	135	88	154	74	2 424	200	774	3 398
1112 General Managers	20 223	4 090	3 053	7 359	2 093	3 6818	3 759	20 686	61 263
1190 Misc Generalist Managers nfd	10	7	10	27	3	57	8	67	132
1191 Building and Construction Managers	2 924	1 334	2 287	20 386	1 129	28 060	3 735	10 707	42 502
1192 Importers, Exporters and Wholesalers	1 080	412	275	1 059	235	3 061	640	5 012	8 713
1193 Manufacturers	1 319	678	547	4 745	550	7 839	1 346	10 566	19 751
1200 Specialist Managers nfd	2 687	493	462	875	330	4 847	426	2 800	8 073
1210 Resource Managers nfd	431	78	83	99	47	738	51	393	1 182
1211 Finance Managers	15 068	2 059	2 849	1 482	1 338	22 796	2 216	13 289	38 301
1212 Company Secretaries	849	273	141	116	146	1 525	261	1 379	3 165
1213 Human Resource Managers	7 702	1 225	1504	1 350	927	12 708	949	6 408	20 065
1220 Eng, Dist and Process M'gers nfd	165	31	39	88	33	356	25	143	524
1221 Engineering Managers	4 118	683	1 028	2 092	218	8 139	383	950	9 472
1222 Production Managers	6 647	1 599	2 434	10 314	1 563	22 557	2 344	15 852	40 753
1223 Supply and Distribution Managers	1 989	638	806	2 115	833	6 381	978	9 037	16 396
1224 Information Technology Managers	7 018	778	1 010	870	575	10 251	599	3 959	14 809
1231 Sales and Marketing Managers	15 687	3 573	3 154	6 943	2 900	32 257	3 729	27 172	63 158
1290 Misc Specialist Managers nfd	200	9	24	9	0	242	16	44	302
1291 Policy and Planning Managers	5 561	318	361	168	192	6 600	229	1 536	8 365
1292 Health Services Managers	2 558	1 318	135	36	113	4 160	354	554	5 068
1293 Education Managers	17 095	2 239	999	125	105	20 563	348	812	21 723
1294 Commissioned Officers (M'gment)	2 895	388	716	497	179	4 675	576	2 921	8 172
1295 Childcare Co-ordinators	1 972	1 215	1 284	519	255	5 245	369	1 532	7 146

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	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
1296 Media Prods and Artistic Directors	1 453	487	181	348	158	2 627	297	2 088	5 012
1299 Other Specialist Managers	11 555	1 567	1 821	2 362	1 069	18 374	1 282	6 454	26 110
1310 Farmers and Farm Managers nfd	1 444	1 680	678	3 417	1 008	8 227	3 037	30 148	41 412
1311 Mixed Crop and Livestock Farmers	1 505	1 641	860	2 996	1 403	8 405	2 034	24 521	34 960
1312 Livestock Farmers	3 915	3 492	1 642	7 761	2 477	19 287	4 917	55 869	80 073
1313 Crop Farmers	2 081	1 268	932	4 467	1 049	9 797	2 153	29 061	41 011
1314 Aquaculture Farmers	120	61	50	212	50	493	97	963	1 553
2000 Professionals nfd	13 570	850	718	549	417	16 104	664	3 155	19 923
2100 Science, Bldg and Eng Profs nfd	44	6	3	12	0	65	0	9	74
2110 Natural and Physical Sci Profs nfd	152	6	0	0	0	158	0	10	168
2111 Chemists	4 246	284	349	52	225	5 156	185	422	5 763
2112 Geologists and Geophysicists	5 098	68	50	29	17	5 262	88	252	5 602
2113 Life Scientists	3 580	68	84	43	64	3 839	65	261	4 165
2114 Environmental and Ag Science Profs	6 907	618	747	679	401	9 352	427	2 295	12 074
2115 Medical Scientists	8 019	340	327	47	137	8 870	307	334	9 511
2119 Oth Natural and Physical Sci Profs	2 106	92	280	86	31	2 595	77	238	2 910
2120 Building and Engineering Profs nfd	14 295	1 547	2 254	3 348	397	21 841	1 136	2 332	25 309
2121 Architects and L'scape Architects	8 449	952	474	292	55	10 222	388	668	11 278
2122 Quantity Surveyors	692	162	209	91	28	1 182	162	231	1 575
2123 Cartographers and Surveyors	3 031	569	1 137	971	114	5 822	334	1 326	7 482
2124 Civil Engineers	8 828	795	870	422	73	10 988	413	870	12 271
2125 Electrical and Electronics Eng'rs	7 880	680	1 691	1 906	270	12 427	571	1 187	14 185
2126 Mechanical Prod'n and Plant Eng'rs	4222	486	1044	1 554	139	7 445	361	966	8 772
2127 Mining and Materials Engineers	1 953	97	138	175	40	2 403	93	324	2 820
2128 Engineering Technologists	197	21	64	48	19	349	24	75	448
2129 Oth Building and Engineering Profs	2 912	174	347	498	82	4 013	191	442	4 646
2200 Business and Information Profs nfd	929	118	117	88	70	1 322	77	590	1 989
2210 Acc'ts, Auditors and Corp Treas nfd	189	0	9	0	0	198	12	19	229

	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
2211 Accountants	53 462	4 301	9996	545	1 136	69 440	4 759	15 996	90 195
2212 Auditors	4 043	278	572	144	114	5 151	240	1 439	6 830
2213 Corporate Treasurers	408	32	35	21	21	517	36	205	758
2220 Sales, Mktg and Advert'g Profs nfd	47	3	6	7	9	72	4	27	103
2221 Marketing and Advertising Profs	11 485	1 678	1 575	1 552	1 488	17 778	1 677	10 967	30 422
2222 Technical Sales Representatives	5 296	1 477	1 575	4 591	1 200	14 139	1 512	11 906	27 557
2231 Computing Professionals	42 410	3 715	5 584	3 333	2 700	57 742	3 200	20 436	81 378
2290 Misc Business and Info Profs nfd	169	23	30	36	21	279	11	82	372
2291 Human Resource Professionals	12 578	2 198	2 986	3 476	2 249	23 487	2 358	16 604	42 449
2292 Librarians	6 765	404	518	89	315	8 091	324	1152	9 567
2293 Math'ns, Stat'ns and Actuaries	2 479	51	65	22	48	2 665	99	518	3 282
2294 Business and Organisation Analysts	14 037	1 611	2 091	2 614	1 146	21 499	1 405	7 673	30 577
2295 Property Professionals	1 470	463	918	320	398	3 569	405	749	4 723
2299 Oth Business and Information Profs	6 057	494	637	464	406	8 058	480	3 352	11 890
2300 Health Professionals nfd	87	47	7	0	6	147	18	5	170
2310 Medical Practitioners nfd	139	0	0	0	0	139	3	3	145
2311 Generalist Medical Practitioners	27 149	129	54	55	57	27 444	861	765	29 070
2312 Specialist Medical Practitioners	13 647	196	116	47	82	14 088	503	379	14 970
2320 Nursing Professionals nfd	695	530	11	3	25	1 264	93	23	1 380
2321 Nurse Managers	2 890	2 489	119	20	72	5 590	411	181	6 182
2322 Nurse Educators and Researchers	1 359	537	28	0	18	1 942	83	47	2 072
2323 Registered Nurses	43 965	59 178	2 021	428	7 323	112 915	12 327	8 705	133 947
2324 Registered Midwives	8 617	1 563	91	7	22	10 300	444	148	10 892
2325 Registered Mental Health Nurses	1 881	3 007	110	26	233	5 257	629	150	6 036
2326 Reg Dev'mental Disability Nurses	198	665	17	12	51	943	81	62	1 086
2380 Misc Health Professionals nfd	46	31	3	0	0	80	12	7	99
2381 Dental Practitioners	7 194	21	7	14	16	7 252	215	130	7597
2382 Pharmacists	10 204	78	68	11	29	10 390	1 396	518	12 304

	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
2383 Occupational Therapists	3 483	525	20	18	19	4 065	131	174	4 370
2384 Optometrists	1 814	231	44	13	6	2 108	90	54	2 252
2385 Physiotherapists	6 923	1 654	27	5	20	8 629	83	187	8 899
2386 Speech Pathologists	2 095	102	0	0	3	2 200	84	38	2 322
2387 Chiropractors and Osteopaths	1 554	207	4	7	3	1 775	153	55	1 983
2388 Podiatrists	595	531	176	10	24	1 336	91	39	1 466
2391 Medical Imaging Professionals	2 581	2 353	962	22	304	6 222	381	139	6 742
2392 Veterinarians	4 110	12	7	10	3	4 142	24	79	4 245
2393 Dietitians	1 281	61	11	32	25	1 410	117	196	1 723
2394 Natural Therapy Professionals	775	460	86	78	53	1 452	640	695	2 787
2399 Other Health Professionals	1 115	442	210	183	161	2 111	378	987	3 476
2400 Education Professionals nfd	1 390	207	50	21	3	1 671	31	66	1 768
2410 School Teachers nfd	10 918	2 823	726	200	142	14 809	993	2 310	18 112
2411 Pre-Primary School Teachers	6 038	4 400	990	166	51	11 645	339	611	12 595
2412 Primary School Teachers	60 246	25 442	6 506	81	75	92 350	1 839	1 890	96 079
2413 Secondary School Teachers	82 616	10 022	969	230	129	93 966	1 450	2 249	97 665
2414 Special Education Teachers	7 704	1 765	486	86	78	10 119	332	637	11 088
2420 Uni and Vocational Ed Teachers nfd	1 289	169	85	90	31	1 664	74	189	1 927
2421 University Lecturers and Tutors	29 586	488	194	92	50	30 410	400	1 330	32 140
2422 Vocational Education Teachers	14 021	5 434	1 629	1 800	712	23 596	1 132	1 965	26 693
2490 Misc Education Professionals nfd	23	3	0	0	0	26	3	0	29
2491 Extra-Systemic Teachers	6 348	2 259	1 220	826	658	11 311	1 880	7 640	20 831
2492 ESL Teachers	4 340	416	116	5	8	4 885	142	118	5 145
2493 Education Officers	6 374	721	372	204	267	7 938	306	1 571	9 815
2500 Social, Arts and Misc Profs nfd	133	12	13	6	6	170	12	17	199
2510 Social Welfare Professionals nfd	451	38	59	9	15	572	16	74	662
2511 Social Workers	5 939	205	283	41	74	6 542	196	460	7 198
2512 Welfare and Community Workers	7 503	1 944	2 568	831	1 198	14 044	1 408	6 690	22 142

	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
2513 Counsellors	6 053	666	497	200	255	7 671	440	1 387	9 498
2514 Psychologists	6 436	150	27	6	12	6 631	103	178	6 912
2515 Ministers of Religion	6 876	1 941	473	565	355	10 210	1 332	2 071	13 613
2520 Misc Social Professionals nfd	24	0	0	0	0	24	3	3	30
2521 Legal Professionals	30 823	365	165	112	238	31 703	1 095	1 789	34 587
2522 Economists	2 055	20	16	0	9	2 100	40	140	2 280
2523 Urban and Regional Planners	2 843	133	183	76	59	3 294	98	325	3 717
2529 Other Social Professionals	2 464	239	187	85	159	3 134	408	873	4 415
2530 Artists and Related Profs nfd	1 398	309	137	224	103	2 171	237	1 202	3 610
2531 Visual Arts and Crafts Profs	1 631	893	315	1 052	343	4 234	733	4 546	9 513
2532 Photographers	863	549	378	461	445	2 696	693	2 870	6 259
2533 Designers and Illustrators	6 173	3 542	2 162	3 131	792	15 800	1 725	6 390	23 915
2534 Journalists and Related Profs	6 291	611	316	487	397	8 102	780	5 470	14 352
2535 Authors and Related Professionals	1 840	181	63	77	55	2 216	142	834	3 192
2536 Film, TV, Radio and Stage Directors	1 237	360	203	350	214	2 364	307	2 253	4 924
2537 Musicians and Related Profs	1852	519	322	542	168	3 403	435	3 778	7 616
2538 Actors, Dancers and Related Profs	693	355	153	223	107	1 531	286	2 301	4 118
2539 Media Presenters	340	90	71	151	112	764	167	1 589	2 520
2540 Misc Professionals nfd	0	0	0	0	0	0	0	3	3
2541 Air Transport Professionals	1 480	3 679	406	887	147	6 599	1 214	2 414	10 227
2542 Sea Transport Professionals	583	718	964	1 507	1077	4 849	813	1 403	7 065
2543 Occ and Environmental Health Profs	3 126	840	959	673	372	5 970	408	1 555	7 933
2549 Other Professionals	2 900	432	362	323	382	4 399	529	2 641	7 569
3000 Associate Professionals nfd	685	242	402	811	381	2 521	454	2 825	5 800
3100 Sci, Eng and Rel Assoc Profs nfd	978	281	1 731	1 575	433	4 998	349	1 301	6 648
3110 Medical and Science Tech Offs nfd	510	99	363	237	246	1 455	262	1 658	3 375
3111 Medical Technical Officers	1 685	542	1 279	658	639	4 803	729	2 676	8 208
3112 Science Technical Officers	4 061	795	2 359	1 867	1 673	10 755	1 094	6 856	18 705

	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
3120 Bldg and Eng Associate Profs nfd	711	611	2 903	2 791	714	7 730	759	2 895	11 384
3121 Bldg, Arch and Survey'g Assoc Profs	3 466	1 355	4 246	9 936	1 052	20 055	1 819	6 265	28 139
3122 Civil Engineering Assoc Profs	327	248	1 740	739	232	3 286	273	1 532	5 091
3123 Electrical Eng Associate Profs	192	146	1 387	3 205	249	5 179	224	763	6 166
3124 Electronic Eng Associate Profs	1 195	793	5 157	10 459	1 666	19 270	1 408	4 330	25 008
3125 Mechanical Eng Associate Profs	294	229	1 346	1 732	196	3 797	244	899	4 940
3129 Other Building and Eng Assoc Profs	422	208	781	2 314	590	4 315	598	2 229	7 142
3200 Business and Admin Assoc Profs nfd	124	35	38	37	26	260	30	304	594
3210 Finance Associate Profs nfd	64	31	13	14	11	133	30	114	277
3211 Branch Acc'ts and M'gers (Fin Inst)	3 414	746	1 382	420	844	6 806	943	12 835	20 584
3212 Financial Dealers and Brokers	6 114	1 027	1 283	913	1 384	10 721	1 874	11 303	23 898
3213 Financial Investment Advisers	4 091	1 215	577	505	502	6 890	822	3 738	11 450
3290 Misc Bus and Admin Assoc Profs nfd	299	87	110	164	93	753	118	820	1 691
3291 Office Managers	9 109	4 244	3 622	4 297	4 907	26 179	6 267	39 197	71 643
3292 Project and Program Administrators	17 435	3 303	4 918	6 984	3 931	36 571	4 378	30 501	71 450
3293 Real Estate Associate Profs	4 047	2 145	2 946	8 274	1 880	19 292	4 288	16 204	39 784
3294 Computing Support Technicians	4 126	1 032	1 739	1 347	1 396	9 640	1 433	10 670	21 743
3300 Man'g Supervis (Sales and Serv) nfd	79	76	36	245	58	494	101	805	1 400
3311 Shop Managers	10 334	5 253	3 847	19 053	4 608	43 095	11 199	106 402	160 696
3320 Hospitality and Accom M'gers nfd	52	63	24	353	26	518	62	259	839
3321 Restaurant and Catering Managers	2 468	1 542	1 171	3 496	1 100	9 777	2 528	19 208	31 513
3322 Chefs	785	774	436	16 238	675	18 908	1 849	8 657	29 414
3323 Hotel and Motel Managers	1 516	962	672	2 523	639	6 312	1 639	12 434	20 385
3324 Club Managers (Lic Premises)	281	144	218	609	176	1 428	397	3 059	4 884
3325 C'van Park and Camp'g Ground M'gers	161	137	93	557	113	1 061	286	2 086	3 433
3329 Other Hospitality and Accom M'gers	619	458	175	393	228	1 873	395	1 996	4 264
3390 Misc Man Supers (Sales and Serv) nfd	12	3	3	26	0	44	18	81	143
3391 Sport and Recreation Managers	1 031	301	215	671	214	2 432	391	2 929	5 752

	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
3392 Customer Service Managers	3 004	751	1 147	5 798	912	11 612	1 260	9 359	22 231
3393 Transport Company Managers	278	171	146	1 971	226	2 792	630	7 736	11 158
3399 Oth Man'g Supervis (Sales and Serv)	4 126	1 929	1 472	6 603	1 694	15 824	2 992	22 373	41 189
3400 Health and Welfare Assoc Profs nfd	7	0	0	0	4	11	3	6	20
3411 Enrolled Nurses	1 153	2 799	1 991	376	13 406	19 725	1 887	2 955	24 567
3421 Welfare Associate Professionals	3 017	958	2 097	937	1 124	8 133	1 088	4 007	13 228
3490 Misc Hlth and W'fare Ass Profs nfd	0	0	0	0	0	0	0	3	3
3491 Ambulance Officers and Paramedics	426	519	2 323	568	455	4 291	403	1 278	5 972
3492 Dental Associate Professionals	141	464	561	1 471	678	3 315	774	366	4 455
3493 Aboriginal and TS Island Hlth Wkrs	39	21	50	15	56	181	80	450	711
3494 Massage Therapists	291	302	230	121	219	1 163	238	862	2263
3900 Other Associate Profs nfd	3	0	3	6	6	18	6	13	37
3911 Police Officers	2 768	872	2 666	4 922	1 974	13 202	4 199	20 591	37 992
3990 Misc Associate Professionals nfd	6	5	7	9	0	27	3	21	51
3991 Primary Products Inspectors	312	132	360	580	431	1 815	229	850	2 894
3992 Safety Inspectors	603	257	318	903	219	2 300	284	1 078	3 662
3993 Sportspsns, Coaches and Rel Sup Wkrs	1 622	409	364	1 283	331	4 009	1 050	9 861	14 920
3994 Snr Non-Commis Defence Frce Offs	89	218	522	476	47	1 352	207	1 551	3 110
3995 Senior Fire Fighters	21	31	30	227	31	340	139	231	710
3996 Retail Buyers	361	108	97	236	138	940	180	1 822	2 942
3997 Library Technicians	779	312	1 922	81	354	3 448	302	1 756	5 506
3999 Other Misc Associate Profs	563	309	292	778	413	2 355	622	4 100	7 077
4000 Tradespersons and Related Wkrs nfd	388	222	709	7 669	357	9 345	956	4 677	14 978
4100 Mech and Fabric'n Eng Trades nfd	3	0	17	300	10	330	33	87	450
4110 Mechanical Eng Trades nfd	0	6	16	189	3	214	17	32	263
4111 General Mechanical Eng Trades	18	13	43	724	10	808	49	206	1 063
4112 Metal Fitters and Machinists	1 188	563	1 931	58 021	829	62 532	4 234	16 135	82 901
4113 Toolmakers	109	109	294	5 728	114	6 354	674	1 768	8 796

	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
4114 Aircraft Maintenance Engineers	203	206	615	7 532	162	8 718	635	1 577	10 930
4115 Precision Metal Tradespersons	254	123	343	3 954	199	4 873	558	2 646	8 077
4120 Fabrication Eng Trades nfd	3	0	0	128	7	138	13	73	224
4121 General Fabrication Eng Trades	35	22	17	358	8	440	36	208	684
4122 Struct'l Steel and Welding Trades	257	160	328	30 312	822	31 879	3 371	16 009	51 259
4123 Forging Tradespersons	24	10	15	628	20	697	101	539	1 337
4124 Sheetmetal Tradespersons	54	38	44	5 117	77	5 330	522	3 329	9 181
4125 Metal Casting Tradespersons	25	14	9	719	6	773	86	451	1 310
4126 Metal Finishing Tradespersons	25	16	27	435	31	534	143	1 181	1 858
4210 Automotive Tradespersons nfd	11	9	9	1 081	11	1 121	107	517	1 745
4211 Motor Mechanics	407	347	618	55 685	713	57 770	4 437	20 338	82 545
4212 Automotive Electricians	19	9	54	4 305	32	4 419	247	1 243	5 909
4213 Panel Beaters	36	27	40	10 128	83	10 314	911	4 019	15 244
4214 Vehicle Painters	31	22	15	5 894	71	6 033	711	3 956	10 700
4215 Vehicle Body Makers	8	8	16	1 461	22	1 515	132	852	2 499
4216 Vehicle Trimmers	6	11	7	1 179	27	1 230	116	724	2 070
4310 Electric and Electronics Trades nfd	3	12	24	490	21	550	76	514	1 140
4311 Electricians	634	456	2 366	55 670	760	59 886	2 913	12 348	75 147
4312 Refrigeration and Aircon Mechanics	96	79	164	6 632	103	7 074	435	2 347	9 856
4313 Electrical Distribution Trades	19	10	48	3 270	263	3 610	563	1 449	5 622
4314 Electronic Instrument Trades	12	9	48	268	13	350	6	48	404
4315 Electronic and Office Equip Trades	1 823	651	1 911	6 199	961	11 545	1 580	7 214	20 339
4316 Communications Tradespersons	453	275	1 100	8 177	736	10 741	1 711	11 244	23 696
4400 Construction Tradespersons nfd	8	7	7	218	5	245	39	273	557
4410 Structural Const'n Trades nfd	5	6	6	355	11	383	69	327	779
4411 Carpentry and Joinery Tradespersons	502	371	1 292	43 461	794	46 420	4 276	18 654	69 350
4412 Fibrous Plasterers	70	63	58	5 782	121	6 094	1 154	7 059	14 307
4413 Roof Slaters and Tilers	21	23	20	2 315	42	2 421	375	2 621	5 417

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4414 Bricklayers	56	77	130	10 430	182	10 875	1 385	7 176	19 436
4415 Solid Plasterers	11	10	4	672	22	719	143	876	1 738
4416 Wall and Floor Tilers and Stonemasons	132	71	82	4 807	102	5 194	973	5 102	11 269
4420 Final Finish Const'n Trades nfd	0	3	0	59	0	62	9	23	94
4421 Painters and Decorators	346	236	196	15 531	315	16 624	2 545	12 813	31 982
4422 Signwriters	94	76	80	2 501	122	2 873	302	1 913	5 088
4423 Floor Finishers	61	31	34	1 803	61	1 990	481	3 663	6 134
4431 Plumbers	145	185	477	32 139	463	33 409	1 903	8 731	44 043
4510 Food Tradespersons nfd	0	0	0	14	0	14	3	12	29
4511 Meat Tradespersons	59	40	64	11 423	203	11 789	1 750	9 322	22 861
4512 Bakers and Pastrycooks	353	175	143	7 910	296	8 877	1 359	9 865	20 101
4513 Cooks	834	560	623	4 646	995	7 658	2 875	27 618	38 151
4519 Other Food Tradespersons	41	21	21	271	76	430	165	1 463	2 058
4600 Skilled Ag and Horticult Wkrs nfd	0	0	0	0	0	0	0	0	0
4610 Skilled Agricultural Wkrs nfd	0	4	0	10	3	17	0	9	26
4611 Farm Overseers	40	52	94	163	87	436	82	1 081	1 599
4612 Shearers	20	30	25	457	147	679	419	4 207	5 305
4613 Wool, Hide and Skin Classers	29	46	35	437	190	737	174	441	1 352
4614 Animal Trainers	55	54	55	377	53	594	203	2 176	2 973
4620 Horticultural Tradespersons nfd	0	3	14	61	18	96	16	126	238
4621 Nurserypersons	362	236	248	1 023	262	2 131	390	3 740	6 261
4622 Greenkeepers	137	125	201	3 905	413	4 781	645	6 484	11 910
4623 Gardeners	1 233	730	1 352	7 131	1 506	11 952	2 158	20 305	34 415
4900 Oth Tradespersons and Rel Wkrs nfd	12	14	8	145	10	189	38	206	433
4910 Printing Tradespersons nfd	3	0	6	92	4	105	4	29	138
4911 Graphic Pre-Press Tradespersons	211	141	131	4 583	239	5 305	451	2 160	7 916
4912 Print Mach and Sml Offset Printers	319	219	178	9 299	274	10 289	1 185	6 448	17 922
4913 Binders and Finishers	72	32	22	1 319	66	1 511	205	1 721	3 437

	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
4914 Screen Printers	71	67	51	690	61	940	195	1 814	2 949
4920 Wood Tradespersons nfd	3	0	3	63	0	69	8	38	115
4921 Wood Machinists and Turners	41	17	40	2 082	54	2 234	258	2 023	4 515
4922 Cabinetmakers	252	175	166	11 011	180	11 784	1 169	7 784	20 737
4929 Other Wood Tradespersons	208	130	60	1 405	87	1 890	295	2 316	4 501
4931 Hairdressers	117	117	146	29 395	656	30 431	2 280	7 414	40 125
4940 Textile, Clothing and Rel Trades nfd	0	0	0	4	0	4	0	7	11
4941 Clothing Tradespersons	362	527	425	1 424	500	3 238	1 167	7 129	11 534
4942 Upholsterers and Bedding Trades	51	26	34	2 241	48	2 400	323	2 131	4 854
4943 Footwear Tradespersons	37	26	20	724	28	835	233	1 515	2 583
4944 Leather and Canvas Goods and Sail Mkrs	47	30	31	368	38	514	140	1 201	1 855
4980 Misc Tradespersons and Rel Wkrs nfd	3	0	3	9	0	15	3	23	41
4981 Marine Construction Trades	51	35	43	1 625	81	1 835	203	1 199	3 237
4982 Glass Tradespersons	55	23	27	2 913	49	3 067	411	2 285	5 763
4983 Jewellers and Rel Tradespersons	173	183	69	1 420	80	1 925	312	1 574	3 811
4984 Florists	194	223	92	1 017	287	1 813	554	3 341	5 708
4985 Fire Fighters	275	130	297	2 821	303	3 826	1 121	3 537	8 484
4986 Drillers	82	31	28	1 039	103	1 283	374	3 132	4 789
4987 Chem, Petroleum and Gas Plant Ops	181	78	108	1 530	204	2 101	338	2 935	5 374
4988 Power Generation Plant Operators	71	75	403	1 297	294	2 140	162	759	3 061
4991 Defence Force Members NEI	291	165	523	1 644	233	2 856	764	7 723	11 343
4992 Performing Arts Support Workers	923	439	368	908	427	3 065	610	4 228	7 903
4999 Oth Misc Tradespersons and Rel Wkrs	275	279	376	1 883	172	2 985	625	2 626	6 236
5000 Adv Clerical and Service Wkrs nfd	48	6	24	24	0	102	6	77	185
5111 Secretaries and Personal Assistants	9 844	8 664	7 301	4 383	23 036	53 228	28 402	117 808	199 438
5900 Oth Adv Clerical and Serv Wkrs nfd	9	0	3	3	3	18	0	9	27
5910 Advanced Numerical Clerks nfd	0	0	0	0	0	0	0	3	3
5911 Bookkeepers	4 900	2 842	3 244	1 949	3 543	16 478	6 240	45 395	68 113

	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
5912 Credit and Loans Officers	2 694	390	1 107	334	681	5 206	840	13 121	19 167
5990 Misc Adv Clerical and Serv Wkrs nfd	3	3	0	0	0	6	0	0	6
5991 Advanced Legal and Related Clerks	1 740	275	456	324	750	3 545	836	5 987	10 368
5992 Court and Hansard Reporters	66	29	91	5	90	281	149	360	790
5993 Insurance Agents	1061	651	506	560	881	3 659	1 215	5 789	10 663
5994 Insur Survey/Investig/Adjustors	435	147	171	853	322	1 928	402	1 180	3 510
5995 Desktop Publishing Operators	410	136	128	260	172	1 106	147	1 033	2 286
5996 Travel Attendants	1091	641	339	750	432	3 253	649	4 154	8 056
5999 Oth Misc Adv Cleric and Serv Wkrs	327	198	276	727	328	1 856	514	4 872	7 242
6000 Int Cleric, Sales and Serv Wkrs nfd	315	150	187	299	455	1 406	539	2 838	4 783
6100 Intermediate Clerical Wkrs nfd	332	71	109	64	165	741	154	1 549	2 444
6111 General Clerks	13 736	4 981	6 074	5 898	11 151	41 840	15 613	128 600	186 053
6121 Keyboard Operators	3 887	1 655	2 283	1 560	5 149	14 534	6 835	41 896	63 265
6131 Receptionists	4 650	4 367	3 533	2 460	9 083	24 093	11 123	67 570	102 786
6140 Intermed Numerical Clerks nfd	45	12	19	12	25	113	30	222	365
6141 Accounting Clerks	5 875	1 670	4 382	2 616	3 136	17 679	4 281	36 178	58 138
6142 Payroll Clerks	964	361	789	356	826	3 296	1 086	11 281	15 663
6143 Bank Workers	5 985	1 397	2 873	1 275	2 992	14 522	4 409	62 131	81 062
6144 Insurance Clerks	1 251	388	536	278	932	3 385	1 034	8 396	12 815
6145 Money Market and Statistical Clerks	296	45	80	52	105	578	92	1 087	1 757
6150 Material Rec and Despatch Clerk nfd	3	0	0	10	0	13	4	71	88
6151 Production Recording Clerks	372	77	221	609	195	1 474	199	1 896	3 569
6152 Transport and Despatching Clerks	935	481	669	1 926	1 108	5 119	1 553	13 605	20 277
6153 Stock and Purchasing Clerks	2 846	1 101	1 924	5 713	2 603	14 187	3 586	39 810	57 583
6190 Misc Intermed Clerical Wkrs nfd	0	0	0	0	0	0	0	0	0
6191 Inquiry and Admissions Clerks	4 368	1 191	1 657	2 357	2 428	12 001	2 786	23 842	38 629
6192 Library Assistants	1 302	327	637	172	513	2 951	644	5 027	8 622
6193 Personnel Clerks	732	174	244	288	269	1 707	261	3 151	5 119

	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
6194 Intermed Inspectors and Examiners	2 044	397	700	1 798	690	5 629	843	7 466	13 938
6199 Other Intermediate Clerical Wkrs	1 616	522	636	730	780	4 284	1 010	8 334	13 628
6210 Intermediate Sales and Rel Wkrs nfd	93	36	28	185	44	386	91	920	1 397
6211 Sales Representatives	8 233	3 446	3 537	15 762	3 872	34 850	6 375	61 427	102 652
6212 Motor Veh and Rel Prods Salespsns	335	226	261	4 224	409	5 455	1 188	13 764	20 407
6213 Retail and Checkout Supervisors	587	282	369	2 044	549	3 831	989	12 068	16 888
6300 Intermediate Service Wkrs nfd	94	34	48	98	49	323	147	795	1 265
6310 Carers and Aides nfd	57	43	28	46	41	215	73	342	630
6311 Education Aides	2 309	2 113	1 340	1 641	2 053	9 456	3 125	23 228	35 809
6312 Children's Care Workers	3 833	3 163	5 685	5 376	2 593	20 650	5 517	35 828	61 995
6313 Special Care Workers	3 286	2 374	2 085	2 560	2 986	13 291	4 230	25 613	43 134
6314 Personal Care and Nursing Assists	1 865	1 256	769	2 018	2 573	8 481	4 204	30 084	42 769
6320 Hospitality Workers nfd	223	101	191	233	225	973	322	2 576	3 871
6321 Hotel Service Supervisors	460	295	382	425	295	1 857	688	4 848	7 393
6322 Bar Attendants	1 643	661	1 226	2 952	1 646	8 128	3 213	32 729	44 070
6323 Waiters	4 002	1 463	2 709	2 293	2 513	12 980	4 598	48 061	65 639
6324 Hospitality Trainees	18	17	24	20	36	115	59	608	782
6390 Misc Intermed Service Wkrs nfd	9	3	6	6	3	27	9	19	55
6391 Dental Assistants	283	467	246	129	2 360	3 485	2 908	4 878	11 271
6392 Veterinary Nurses	139	84	282	538	138	1 181	451	1 604	3 236
6393 Prison Officers	459	147	321	1 865	271	3 063	607	4 171	7 841
6394 Gaming Workers	613	178	286	451	219	1 747	299	3 926	5 972
6395 Personal Care Consultants	560	760	829	2 101	549	4 799	3 079	4 537	12 415
6396 Fitness Instructors and Rel Wkrs	1 220	362	267	490	563	2 902	1 115	3 745	7 762
6397 Travel and Tourism Agents	2 650	2 086	1 882	898	2 104	9 620	2 898	9 114	21 632
6399 Other Intermediate Service Wkrs	982	406	365	1 702	904	4 359	1 517	7 404	13 280
7000 Int Prod'n and Transport Wkrs nfd	231	127	162	2 219	382	3 121	1 243	10 837	15 201
7100 Intermediate Plant Operators nfd	53	23	33	1 173	171	1 453	613	5 625	7 691

	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
7110 Mobile Plant Operators nfd	3	0	0	47	15	65	28	330	423
7111 Mobile Construction Plant Ops	97	118	178	4 259	565	5 217	1 737	21 416	28 370
7112 Forklift Drivers	218	115	153	2 707	630	3 823	1 734	22 257	27 814
7119 Other Mobile Plant Operators	135	109	134	1 818	238	2 434	572	8 203	11 209
7120 Int Stationary Plant Ops nfd	0	0	0	28	9	37	8	47	92
7121 Engine and Boiler Operators	14	8	41	524	441	1 028	190	756	1 974
7122 Crane, Hoist and Lift Operators	95	43	42	1 149	617	1 946	530	4 757	7 233
7123 Engineering Prod'n Systems Wkrs	385	159	301	4 859	331	6 035	1 260	12 589	19 884
7124 Pulp and Paper Mill Operators	45	20	15	403	29	512	126	1 304	1 942
7129 Other Int Stationary Plant Ops	208	82	187	2 171	298	2 946	765	8 126	11 837
7200 Intermed Machine Operators nfd	1 782	670	758	7 706	1 121	12 037	5 279	47 040	64 356
7210 Int Text, Clthg and Rel Mach Ops nfd	35	17	29	89	16	186	59	670	915
7211 Sewing Machinists	444	280	290	929	374	2 317	1 789	18 367	22 473
7212 Textile and F'wear Prod'n Mach Ops	235	98	136	695	159	1 323	615	5 644	7 582
7290 Misc Int Machine Operators nfd	0	3	0	6	0	9	3	18	30
7291 Plastics Production Machine Ops	203	91	124	1 090	167	1 675	564	4 783	7 022
7292 Rubber Production Machine Ops	47	15	28	265	43	398	172	1 741	2 311
7293 Chemical Production Machine Ops	75	20	33	170	32	330	88	810	1 228
7294 Wood Processing Machine Ops	36	20	29	551	56	692	268	3 541	4 501
7295 Paper Products Machine Operators	43	20	22	218	22	325	73	979	1 377
7296 Glass Production Machine Ops	31	10	12	168	18	239	52	527	818
7297 Clay, Stone, C'crete Proc Mach Ops	27	17	21	329	25	419	118	1 437	1 974
7298 Photograph Developers and Printers	326	163	192	521	225	1 427	414	3 599	5 440
7299 Other Intermed Machine Operators	72	38	46	1 023	75	1 254	404	3 954	5 612
7310 Road and Rail T'port Drivers nfd	217	146	149	3 263	286	4 061	1 568	15 231	20 860
7311 Truck Drivers	410	392	426	17 683	1 180	20 091	5 838	78 454	104 383
7312 Bus and Tram Drivers	482	385	271	4 271	442	5 851	1 616	16 494	23 961
7313 Automobile Drivers	1 646	573	513	3 246	449	6 427	1 623	14 784	22 834

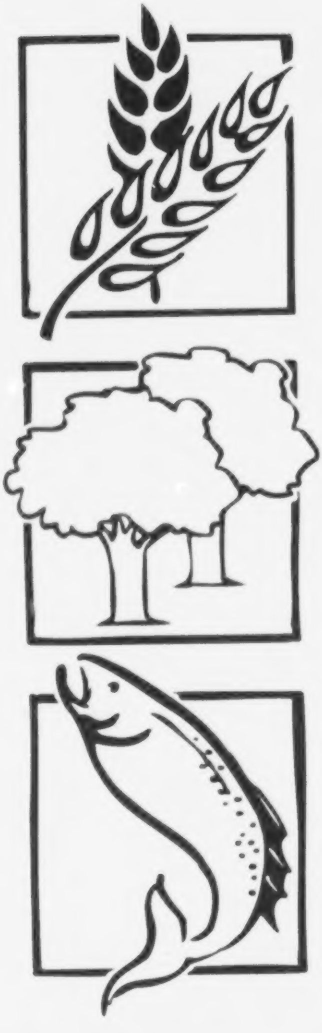
	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
7314 Delivery Drivers	1 060	614	664	5 989	900	9 227	2 483	32 714	44 424
7315 Train Drivers and Assistants	46	40	39	978	964	2 067	444	5 629	8 140
7900 Oth Int Prod'n and T'port Wkrs nfd	0	3	0	10	3	16	0	64	80
7910 Int Mining and Const'n Wkrs nfd	0	0	0	15	7	22	6	31	59
7911 Miners	153	95	136	3 317	276	3 977	870	9 206	14 053
7912 Blasting Workers	22	14	6	164	32	238	91	423	752
7913 Structural Steel Const'n Workers	49	41	40	1 691	1 309	3 130	816	4 223	8 169
7914 Insul'n and Home Improv Installers	111	91	116	2 640	190	3 148	544	4 730	8 422
7990 Misc Int Prod'n and T'port Wkrs nfd	0	0	3	13	0	16	6	38	60
7991 Motor Veh Parts and Access Fitters	42	27	53	1 587	207	1 916	528	6 065	8 509
7992 Product Quality Controllers	900	231	498	1 580	337	3 546	868	7 354	11 768
7993 Storepersons	2 268	952	1 335	8 226	2 049	14 830	6 648	85 297	106 775
7994 Seafarers and Fishing Hands	133	111	73	1 353	746	2 416	887	4 719	8 022
7995 Forestry and Logging Workers	63	34	68	556	86	807	280	3 263	4 350
7996 Printing Hands	179	92	84	447	113	915	435	5 119	6 469
8000 Ele Cleric, Sales and Serv Wkrs nfd	101	35	53	112	93	394	186	2 171	2 751
8110 Elementary Clerks nfd	152	53	68	50	145	468	196	1 631	2 295
8111 Registry and Filing Clerks	687	219	308	340	484	2 038	637	5 208	7 883
8112 Mail Sorting Clerks	1 356	303	359	1 079	422	3 519	1 071	11 318	15 908
8113 Switchboard Operators	559	322	383	462	750	2 476	1 337	12 393	16 206
8114 Messengers	300	133	170	1 641	233	2 477	660	9 270	12 407
8115 Betting Clerks	121	37	73	140	101	472	212	2 726	3 410
8116 Office Trainees	125	18	80	46	133	402	112	1 614	2 128
8119 Other Elementary Clerks	2 575	897	688	1 193	878	6 231	1 060	8 533	15 824
8200 Elementary Sales Workers nfd	93	26	59	56	75	309	208	2 569	3 086
8211 Sales Assistants	14 954	6 272	6 839	17 182	10 204	55 451	28 676	300 702	384 829
8290 Misc Elementary Sales Wkrs nfd	6	3	3	10	0	22	4	107	133
8291 Checkout Operators and Cashiers	1 706	577	1 025	1 426	1 487	6 221	5 985	65 230	77 436

	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
8292 Ticket Salespersons	992	574	573	580	640	3 359	891	6 789	11 039
8293 Street Vendors and Related Wkrs	557	299	190	1 308	325	2 679	779	7 408	10 866
8294 Telemarketers	686	278	234	355	385	1 938	630	5 367	7 935
8295 Sales Demonstrators and Models	206	118	74	263	179	840	340	3 050	4 230
8296 Service Station Attendants	181	75	100	567	176	1 099	610	7 821	9 530
8297 Sales and Service Trainees	70	9	37	64	53	233	91	1 047	1 371
8299 Other Elementary Sales Workers	189	98	101	875	140	1 403	410	4 570	6 383
8310 Elementary Service Workers nfd	3	3	9	28	3	46	14	93	153
8311 Guards and Security Officers	825	409	553	4 297	785	6 869	2 712	18 197	27 778
8312 Ushers, Porters and Related Workers	456	145	220	887	194	1 902	490	5 188	7 580
8313 Domestic Housekeepers	126	107	63	128	108	532	282	2 136	2 950
8314 Caretakers	194	141	122	1 279	170	1 906	466	3 952	6 324
8315 Laundry Workers	530	210	169	882	331	2 122	1 311	12 741	16 174
8319 Other Elementary Service Workers	762	447	308	1 204	557	3 278	1 930	15 577	20 785
9000 Labourers and Related Workers nfd	788	318	368	3 457	650	5 581	4 208	38 465	48 254
9111 Cleaners	3 902	2 264	1 872	11 106	3 418	22 562	13 805	138 570	174 937
9200 Factory Labourers nfd	25	15	9	35	13	97	41	655	793
9210 Process Workers nfd	167	86	97	693	143	1 186	822	7 573	9 581
9211 Eng Production Process Workers	191	97	150	1 793	236	2 467	858	10 453	13 778
9212 Product Assemblers	1 178	375	462	2 987	650	5 652	2 032	24 212	31 896
9213 Meat and Fish Process Workers	159	84	97	1 700	246	2 286	1 129	13 873	17 288
9214 Other Food Factory Hands	400	154	217	1 398	314	2 483	997	10 842	14 322
9215 Wood Products Factory Hands	70	35	59	740	114	1 018	493	7 370	8 881
9219 Other Process Workers	219	73	88	820	159	1 359	695	9 079	11 133
9220 Product Packagers nfd	5	3	3	3	3	17	3	98	118
9221 Hand Packers	1 069	467	448	1 631	806	4 421	3 031	34 824	42 276
9222 Packagers and Container Fillers	269	107	112	661	160	1 309	459	5 126	6 894
9900 Other Labourers and Rel Wkrs nfd	3	13	6	93	20	135	42	756	933

	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
9910 Mine, Const'n and Rel Labourers nfd	7	0	0	85	13	105	29	338	472
9911 Mine Sup Wkrs and Driller's Assists	42	22	41	579	69	753	191	2 030	2 974
9912 Earthmoving Labourers	33	12	17	367	62	491	163	1 981	2 635
9913 Paving and Surfacing Labourers	28	14	37	598	55	732	308	3 984	5 024
9914 Survey Hands	125	43	138	249	64	619	104	1 564	2 287
9915 Railway Labourers	42	13	21	506	34	616	301	3 687	4 604
9916 Const'n and Plumber's Assistants	281	139	204	3 188	385	4 197	1 237	14 783	20 217
9917 Concreters	82	70	102	2 522	163	2 939	1 144	13 092	17 175
9918 Elect'l and Telecomm'n Trades Ass	26	15	21	419	56	537	142	1 615	2 294
9919 Oth Mine, Const'n and Rel Labourers	75	61	49	1 047	157	1 389	414	4 396	6 199
9920 Ag and Horticultural Labourers nfd	7	4	3	6	0	20	3	59	82
9921 Farm Hands	1 158	770	1 007	4 756	1 595	9 286	3 644	44 429	57 359
9922 Nursery and Garden Labourers	433	306	389	2 455	604	4 187	1 159	15 279	20 625
9929 Oth Ag and Horticultural Labourers	134	41	123	291	143	732	190	2 125	3 047
9930 Elem Food Prep'n and Rel Wkrs nfd	0	3	6	6	6	21	16	146	183
9931 Kitchenhands	2 054	838	967	2 629	1 515	8 003	6 458	64 187	78 648
9932 Fast Food Cooks	160	72	84	393	124	833	1 022	9 115	10 970
9933 Food Trades Assistants	71	22	42	162	77	374	324	3 891	4 589
9990 Misc Labourers and Rel Wkrs nfd	0	0	6	12	3	21	3	57	81
9991 Garbage Collectors	33	13	26	372	44	488	254	2 819	3 561
9992 Freight and Furniture Handlers	82	65	52	912	131	1 242	431	5 716	7 389
9993 Handypersons	547	371	428	5 625	486	7 457	1 318	10 666	19 441
9999 Other Misc Labourers and Rel Wkrs	369	177	266	2 059	380	3 251	1 041	12 048	16 340
0998 Inadequately described	6 678	1 814	2 118	12 772	1 951	25 333	6 654	39 517	71 504
Not stated	5 395	2 232	1 501	9 345	2 008	20 481	25 744	82 373	128 598
Not applicable	–	–	–	–	–	–	–	–	–
Total	**1 181 592**	**342 420**	**278 458**	**1 087 955**	**278 007**	**3 168 432**	**553 822**	**3 914 122**	**7 636 376**

Note: nfd – not further defined
Australian Standard Classification of Occupations (ASCO)

Source: ABS, 1996 Census of population and housing



1 Agriculture, forestry and fishing

The agriculture, forestry and fishing industry accounts for a little over 5% of total employment in Australia. During 1996 the number of persons employed in the sector averaged about 420 000 persons (Australian Bureau of Statistics [ABS] cat.6203.0, 1996). Growth in employment over the last ten years has been low, averaging only about 0.3% a year. Over that period the number of persons employed in the sector grew by about 12 400, contributing a little over 1% to national employment growth. There are about 110 000 businesses in this sector, with around 92% of them classified as small businesses according to the ABS.

The Australian Bureau of Agricultural and Resource Economics (ABARE) statistics show about 115 000 farms across Australia, defined on a different basis to the ABS business statistics. ABARE divides farms into four categories: broadacre (about 70 000 farms); dairy (about 14 000); horticulture (about 16 000); and other (about 14 000). The agriculture, forestry and fishing industry contributes about $13.5 billion to gross product in Australia. It is estimated that about 8000 are employed in forestry operations.

Over the last decade the number of farms in Australia has been declining at a rate of about 1.3% a year, with the greatest rate of decline being in the dairy industry. While the number of farms has fallen, the size of farms has been growing, through amalgamations, over this period. A major reason for the decline in farm numbers and the subsequent amalgamation of farms has been a general trend to falling commodity prices. The number of establishments in the horticultural sector has remained constant over the last decade.

The rate of decline in farm numbers has been greatest in the south-east and the south-west of the continent. The number of farms in the Northern Territory actually rose over the decade, as did the number of farms in the Kimberley region of Western Australia.

The rise of incomes in Asia over the last ten years has assisted the growth of exports of most Australian commodities. In agriculture, the share of Australian exports to South-East Asia more than doubled over the period between 1988–1989 and 1996–1997.[1]

The impact of the Asian currency difficulties will contribute to a marginal decline in the value of exports of agricultural products in the 1997–1998 year. Over the next five years the volume of agricultural production is forecast to rise by about 9.5%.[2] Developments in trade liberalisation will determine the longer-term growth outlook for the agriculture sector.

Employers in the agriculture sector were not included in the ABS employer training expenditure surveys, so data are not available on the industry's contribution to training. In 1996 the Australian National Training Authority (ANTA) estimated that about 4.7% of government-funded training effort was directed towards primary industry, a little below the industry's overall share of employment.

The agriculture, forestry and fishing industry is, nevertheless, a significant employer of vocational education and training (VET) graduates. At the 1997 employer satisfaction survey (ESS)

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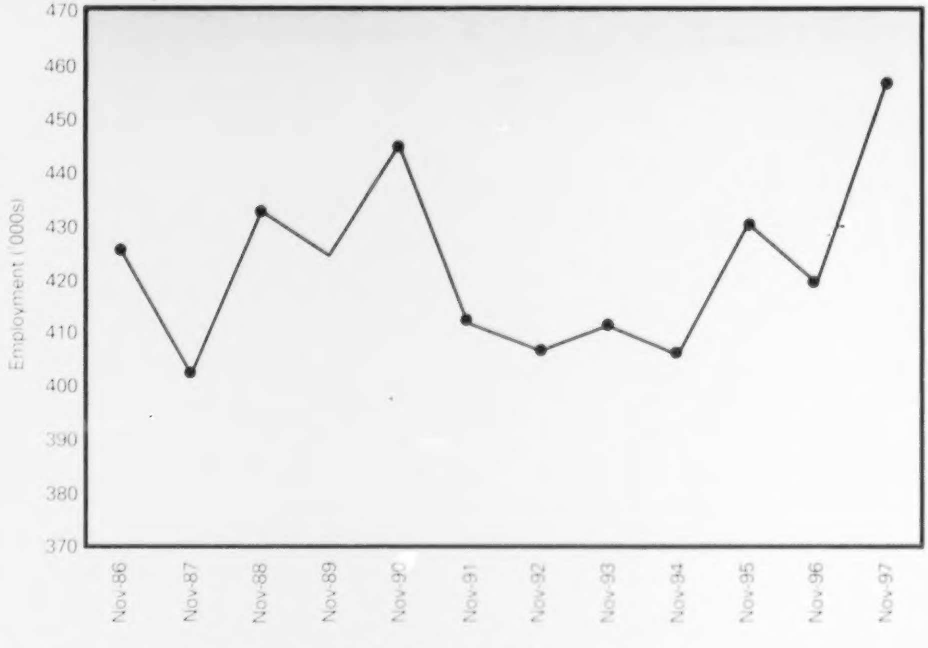
[1] ABARE, *Outlook 98* address by Brian Fisher, executive director, vol.1

[2] ABARE, ibid

11% of establishments in the sector employed recent VET graduates, the fourth highest level of all industries.[1] Agriculture sector employers showed relatively high levels of satisfaction with VET providers. The technical and further education (TAFE) graduate destination survey for 1997 (GDS) found that a relatively high 58% (compared to 51% in all industries) of graduates working in the agriculture sector had received some form of employer support during their last semester of study.[2] About 75% of graduates working in the industry rated their studies as either highly relevant or of some relevance. This was a slightly below-average rating compared with all industries.

Although employment in the sector has fluctuated over the last decade, since 1994 there has been a consistent increase in employment. Given the decline in Asian markets in recent months, it seems unlikely that employment growth can be sustained, at least over the short term. It could be expected that employment will, however, remain in the range experienced over the last decade.

Chart 1.1: Employment in agriculture, forestry and fishing, Australia, 1986–1997 (ABS labour force survey)



Source: ABS, *Labour force, Australia*, cat.6203.0, 1986–1997

An industry snapshot

As noted above, the agriculture, forestry and fishing industry employed about 420 000 persons on average during 1996 throughout Australia, making up a little over 5% of the national workforce. By November 1997 this number had grown to almost

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[1] NCVER, *Employer satisfaction with vocational education and training 1997*

[2] NCVER, TAFE GDS 1997

458 000. The industry is eighth out of the 17 industry sectors in terms of total employment. Over the last decade and, in fact, for several decades, the level of employment in the industry has been growing very slowly.

Since the early 1970s the rural sector's share of gross domestic product (GDP) in Australia has fallen from 5.8% to around 4.4%. Across all Organisation for Economic Co-operation and Development (OECD) countries the same trend has been evident. However, in most other OECD countries the fall has been greater, with the average GDP share for rural industries in all OECD countries now around 2.9%. In other words, Australia is still a nation more dependent upon the agriculture sector than most other OECD countries. In 1994–1995, agriculture accounted for 8.4% of the total exports of goods and services, amounting to $6.9 billion.[5]

Since the early 1970s Australian agriculture sector industries have shown above-average growth in both labour and capital productivity. According to the Industry Commission, growth in labour productivity in Australian agriculture, using total OECD labour productivity growth across all industries as a base of 1.0, has been 1.19. This compares with total labour productivity growth in all Australian industries over that period of 0.9, below the overall OECD average. Capital productivity in Australian agriculture over the same period rose by 1.2 using the same OECD base of 1.0, compared with total capital productivity growth in all Australian industry of 0.83, again well below the total OECD average.

Agriculture is now a less significant, though still important, component of Australian commodity exports. The largest commodity export earner in this sector in 1997–1998 is expected to be wool, with exports expected to be valued at about $4 billion dollars. This places it third in value, behind coal (about $9 billion) and gold (about $5 billion). Other important agricultural exports include wheat, in eighth place, with an expected worth of about $3 billion, beef and veal ninth, at about $2.5 billion, and dairy tenth, at a little under $2 billion.

Falling terms of trade since the early 1950s have reduced the profitability of the sector, although there is an expectation that farm incomes will rise in the medium term. In 1997–1998 average cash income per farm is forecast to be $55 200.

Within the broad industry sector, most employment occurs in the agriculture sub-division, accounting for about 401 000 persons or 88% of the sector's total. Services to agriculture is the next largest source of employment within the sector, accounting for around 26 000 jobs or about 6% of the sector. Forestry and logging provided employment nationally for around 13 400 persons (3% of the sector), while fishing accounted for around 17 000 jobs (or 4.3% of the sector).

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[5] Industry Commission, *The changing of Australian manufacturing*, 1996

Table 1.1: Employment ('000s) in agriculture, forestry and fishing by sub-division, by gender and type of employment ('000s), Australia, November 1997

Industry sub-division	Males	Females	Full-time	Part-time	Total
Agriculture	*274.6*	*126.6*	*309.7*	*91.5*	*401.2*
Horticulture and fruit growing	56.4	30.2	62.8	23.7	86.5
Grain, sheep and beef cattle farming	158.2	60.2	172.6	45.7	218.4
Dairy cattle farming	24.5	14.3	31.3	7.5	38.8
Poultry farming	6.1	6.1	7.2	4.9	12.1
Other livestock farming	12.8	10.3	18.3	4.9	23.2
Other crop growing	16.8	5.5	17.5	4.8	22.3
Services to agriculture; hunting and trapping	*21.3*	*4.9*	*22.4*	*3.8*	*26.2*
Services to agriculture	21.0	4.9	22.1	3.8	25.9
Hunting and trapping	0.3*	0.0*	0.3*	0.0*	0.3*
Forestry and logging	*11.1*	*2.3**	*11.9*	*1.5**	*13.4*
Commercial fishing	*14.0*	*3.0**	*13.6*	*3.5**	*17.1*
Marine fishing	10.1	2.0*	9.6	2.5*	12.1
Aquaculture	3.9	1.0*	4.0	0.9*	4.9
Total	**321.2**	**136.8**	**357.6**	**100.2**	**457.9**

Note: *Subject to sampling variability too high for most practical uses

Source: ABS, *Labour force, Australia*, cat.6203.0, November 1997

In the forestry sub-sector, exports of Australian forest products, including woodchips, have risen consistently over the last decade. Much of the employment associated with forestry, such as in wood and wood products and in paper and paper products, is included by the ABS within the manufacturing sector.

The fishing industry is comprised of the traditional area of offshore commercial fishing together with the emerging aquaculture sector. Industry sources claim that in addition to the employment in traditional fishing, there are now about 10 000 persons employed in the aquaculture sector. It appears that this employment is not included within the agriculture, forestry and fishing sector within the ABS classification.

Over 78% of employees (or about 358 000 persons) in the industry work full time, with males representing about 80% of all full-time workers. Females account for around 67% of the 100 000 part-timers in the industry. Overall, males account for about 70% of the workers in this sector, making it a substantially male-dominated industry. Across all industry sectors, males represent about 57% of all workers.

Along with the characteristics outlined above, there are two other features that distinguish the workforce in this sector—its age, and its high level of Australian-born workers, representing 90% of its workers. The following table summarises both these features and compares them with the workforce as a whole.

Table 1.2: Employment in agriculture, forestry and fishing by age and birthplace

	Age group ('000s)						Born in Australia	Total
	15–19	20–24	25–34	35–44	45–54	55+		
Agriculture, forestry and fishing	24.9	35.9	87.2	98.4	99.6	111.8	412.5	457.9
%	5%	8%	19%	21%	22%	24%	90%	100%
Total employment	**586.1**	**975.9**	**2147.6**	**2178.7**	**1796.5**	**836.6**	**6472.9**	**8521.5**
%	7%	11%	25%	26%	21%	10%	76%	100%

Source: ABS, *Labour force, Australia*, cat.6203.0, November 1997

The sector has close to half, 46%, of its workforce aged over 45, compared with just 31% of the workforce across all industries in these age groups. The low skill profile referred to elsewhere in this chapter might be, in part, a product of this age profile, with older workers generally having had less opportunity to access education and training.

Nevertheless, given the overall deficit of formal qualifications and the expected losses through age-based retirement, there appears to be a looming skill shortage in this sector. Further analysis of new entrants to the industry and of the skills/qualifications of younger persons in the industry appear to be a research priority.

Occupational composition

While the occupation 'farmers and farm managers' is one of the largest occupations, it has declined in numbers over the last ten years by more than any other occupation,

Table 1.3: Employment in agriculture, forestry and fishing by occupational group ('000s)

Occupation group	Males	Females	Persons
Managers and administrators	186.7	78.7	265.4
Professionals	10.5	0.7*	11.2
Associate professionals	2.9*	2.9*	5.8
Tradespersons and related	15.6	3.1*	18.7
Advanced clerical and service workers	0.3*	7.8	8.1
Intermediate clerical, sales and service workers	4.4	6.2	10.6
Intermediate production and transport workers	27.3	1.5*	28.7
Basic clerical, sales and service workers	0.7*	0.9*	1.6*
Labourers and related workers	72.9	35.0	107.9
Total	**321.1**	**136.8**	**457.9**

Note: *Subject to sampling variability too high for most practical uses

Source: ABS, *Labour force, Australia*, cat.6203.0, November 1997

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losing around 20 000 persons. By contrast, the category of 'farmhands and assistants' has actually grown over the same period at an annual rate of about 1.6%, or by 13 700 positions. Together, these two occupations account for about 80% of employment in this industry sector. This change reflects the decline in the number of farms, through aggregation of small farms into larger units, with fewer owners.

The occupational structure reflects the ownership characteristics and the qualifications profile of the industry. Table 1.3 summarises the broad occupational groups in the industry as at November 1997.

Qualifications profile

Agriculture, forestry and fishing is the industry with the lowest skill profile in Australia, with nearly 68% of workers in the industry lacking a formal post-school qualification. Full details of educational attainment by occupation from the 1996 Census are provided in the notes at the end of this chapter in tables A1.3 and A1.4.

More than half of the workforce (54%), in fact, did not complete the highest level of secondary schooling, again the highest proportion within any industry.

The following table summarises the educational attainment of the workforce in the industry as at May 1997. It shows that at each level of qualification, except for the basic vocational qualification, the industry is more lowly qualified than the workforce in total. Around 6% of the agriculture, forestry and fishing industry hold a university degree or higher qualification. Across all industries the figure is almost three times this at 17.2%.

Table 1.4: Qualifications of workers in agriculture, forestry and fishing, May 1997, percentage distribution

	Bachelor's degree or higher %	Diploma/ associate diploma %	Skilled vocational %	Basic vocational %	Without post-school qualification %
Agriculture, forestry and fishing	5.9	6.5	7.3	10.9	67.8
Total industry	**17.2**	**9.0**	**12.6**	**9.4**	**49.4**

Source: ABS, *Transition from education to work*, cat.6227.0, May 1997

A high proportion of those in the industry are classified as either employers or 'own-account' workers. While only about 14% of those in the total labour market are classified as employers or own-account workers, in agriculture, forestry and fishing the percentage is over 53%.

This high level of small business presence, and the long average hours worked in the industry, no doubt contribute to the low level of formal qualifications held by the workforce. Individuals working long hours and running their own business are much less likely to have time available for attendance at formal training courses. Many organisations, public and private, provide short courses or extension courses in the sector in areas such as the use of farm chemicals, the use of veterinary products or the operation of new machinery. Whether such courses are addressing all the training needs of the sector is unclear.

Occupational trends and skills shortages

Between 1987 and 1996 employment in agriculture, forestry and fishing grew by about 3%. Jobs in the professional, para-professional, clerical, plant operator/driver and labouring areas rose, while management and trades jobs declined. The largest rise in numbers occurred in the labouring area, rising from 106 800 persons employed to 127 600, or by nearly 20%. Conversely, management jobs fell by nearly 8%, probably reflecting the decline in individual farm owners and the amalgamation of smaller farms into larger holdings.

The numbers of persons employed in the other occupations—that is, other than in management and labouring—were much smaller and in total only accounted for just over 11% of all jobs in the industry in 1996.

The following table shows the numbers employed by occupational group in 1987 and 1996 in the sector. Note that this table uses the older occupational classification (Australian Standard Classification of Occupations [ASCO] first edition), while the table in the section on the qualifications profile above uses the latest classification.

Table 1.5: Shifts in employment by occupational group ('000s), 1987–1996, agriculture, forestry and fishing

	Managers	Professionals	Para-prof.	Trades	Clerks	Sales/personal service	Plant op/ drivers	Labourers	Total
1987	258.8	2.1*	8.0	17.1	11.0	1.0*	9.1	106.8	413.8
1996	238.4	3.1*	9.4	16.1	16.3	3.2*	12.1	127.6	426.2
Change	**–20.4**	**1.0***	**1.4**	**–1.0**	**5.3**	**2.2***	**3.0**	**20.8**	**12.4**

Note: *Subject to sampling variability too high for most practical uses

Source: ABS, *Labour force, Australia*, cat.6203.0, 1987, 1996

Despite the current small numbers of skilled workers in the industry, fewer employers in the sector believe that there are sufficient numbers of VET graduates to meet current needs than in any other sector. At the 1997 ESS, only 56% of employers in agriculture, forestry and fishing said there were sufficient graduates, compared with an all-industry rating of 67%.

The occupations most frequently identified as being in shortage by the employers, however, were the relatively small areas of tradespersons and sales and personal service workers which, together, account for less than 5% of the workforce in the sector. Nevertheless, the third most frequent area of shortage, identified by nearly 30% of respondents, was in labouring.

Further investigation of this response would be worthwhile to determine whether the shortage perceived relates to:

- specific skills normally required of farm labourers
- changing technologies not being addressed by current training
- a change in the mix of activities within the sector which might indicate retraining is required
- geographic factors reflecting the changing land use patterns, or
- seasonal work, such as fruit picking.

The national industry training advisory body (ITAB) covering agriculture and horticulture, the Rural Training Council of Australia Inc., reported to ANTA in 1997 on skill shortages in their area of coverage. They said:

> *Skill shortages have been identified in specific areas of the industry including: shearers—to replace high departure levels; shedhands—are in constant short supply; agricultural machinery operators—particularly in cane-haul-out and grain harvesting; maintenance and repair technicians for agricultural machinery are in serious shortage for seasonal harvesting; agricultural and horticulture farm managers; amenity horticulture operators—in expectation of needs for the Sydney Olympics; agriculture and horticulture farmers and farm operators—qualified in chemical use and best practice occupational health and safety provisions; functional literacy and numeracy for many in the industry; agriculture and horticulture operators—skilled in marketing export or commodity trading or computing and information technology, or environmental management practices, or skilled as trainers and workplace assessors.*

The national ITAB covering forestry, the Forest and Forest Products Employment Skills Company Ltd (FAFPESC), reported to ANTA in 1997 that:

> *. . . national skill shortages have been identified in two major areas. There is a shortage of fitters, with basic mechanical, hydraulic or pneumatic fitting skills. This is caused by restructuring of timber mills and the expectation that operators will be able to perform basic machine maintenance. Generic skills, such as communication, literacy, numeracy and the ability to work with others, have been identified by industry as being in short supply. This is attributed to the lack of suitable, flexible, industry-specific training.*
>
> *Regional surveys in the north coast area of New South Wales, north-east Tasmania and the south-west of Western Australia indicate a significant shortage of supervisors (recruited or*

promoted). This is due to the lack of availability of skilled workers, exacerbated by limited industry-specific training. Other regional shortages identified by industry surveys include the areas of drying and preserving timber; saw doctoring; timber handling, grading and stock control; and product knowledge.

Hours of work and earnings

The distribution of jobs in agriculture, forestry and fishing between part-time and full-time jobs is close to the overall average for all employment. In November 1997 about 78% of the jobs in the industry were full time and about 22% were part time, compared with the whole workforce split of about 75:25.

Agriculture, forestry and fishing is also characterised by having the highest proportion of its workforce working long hours. In all, 46% of workers in the industry averaged 49 hours or more weekly.

The industry also has the highest average hours worked per week. In 1997 the average male worker in the sector worked for 52.9 hours, against an average for males in all industries of 40.6 hours. Average hours for females were 31.5 hours against an all-industry average of 29 hours. The average for all persons was 46.5 hours against an all-industry average of 35.6 hours.

The following table summarises the distribution of full-time and part-time work in the industry.

Table 1.6: Employment in agriculture, forestry and fishing, by sex and hours worked, November 1997

	Full-time		Part-time		Total	
	No. ('000s)	%	No. ('000s)	%	No. ('000s)	%
Males	287.3	80.3	33.8	33.7	321.1	70.1
Females	70.3	19.7	66.5	66.3	136.8	29.9
Total	**357.6**	**100.0**	**100.3**	**100.0**	**457.9**	**100.0**

Source: ABS, *Labour force, Australia*, cat.6203.0, November, 1997

Geographical distribution of agriculture, forestry and fishing

The following table shows that the larger States, New South Wales and Victoria, and the two Territories have a relatively low share of employment in agriculture, forestry and fishing, while the other States, particularly Tasmania, are relatively more dependent upon the sector.

Table 1.7: Employment in agriculture, forestry and fishing by State/Territory, August 1995

	No. employed in agriculture, forestry and fishing		Share of total employment in all industries
	('000)%	%	
NSW	111.0	27.4	33.5
Vic	90.9	22.5	25.0
Qld	86.1	21.3	18.3
SA	47.4	11.7	8.0
WA	51.0	12.6	10.1
Tas	15.0	3.7	2.4*
NT	2.4*	0.6	1.0*
ACT	0.6*	0.1	1.9*
Australia	**404.4**	**100.0**	**100.0**

Note: *Subject to sampling variability too high for most practical uses

Source: ABS, *Labour force, Australia*, cat.6227.0, 1995

- Agriculture, forestry and fishing is typically an industry with a relatively old, Australian-born male workforce, working long hours.
- It has the least formally qualified workforce of all industries in Australia, with only about one-third of the industry's workforce having a post-school qualification.
- The industry is of considerable national importance, contributing relatively more to GDP in Australia than in most OECD countries.
- The industry has achieved above-average growth in productivity over recent decades.
- Employment in the sector, contrary to popular belief, has been growing slowly in recent years.

Training in agriculture, forestry and fishing

As noted earlier, the ABS did not include this sector in the employer training expenditure survey, so it is difficult to provide informed comments on the degree to which the industry contributes to meeting its own skill needs. Another unknown is the degree to which informal training is provided by suppliers of agricultural machinery and chemicals.

Government support for training

ANTA has estimated that in 1996 the primary industry sector received about 22 hours of government-funded training per employed person in the industry. This was a little

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below the overall average of 27 hours per employed person for all industries. This represented about 4.7% of total government-funded training activity.

In 1996, 6.2% of all course enrolments in Australian VET were in the field of land and marine resources and animal husbandry.[6] More than a quarter, 27%, of these enrolments were in non-award courses, a much higher use of non-award courses than across the whole VET sector, where such enrolments constituted about 18%. Of the enrolments in this field of study, only 3.3% were in advanced diploma, diploma or associate diploma level courses compared with over 12% of enrolments in all VET courses at these levels. Again, this pattern of enrolments reflects the generally low level of qualifications held by workers in the sector, and it appears that the pattern is not changing.

Students enrolled in land and marine resources and animal husbandry were also grouped in lower-level courses when categorised by 'stream of study', a classification that relates to the occupational intent of the course. Nearly 48% of students in land and marine resources and animal husbandry were enrolled in either a basic employment skills course or a course aimed at industry operatives. Only about 38% of all students were enrolled in such courses.

Another worrying feature of VET enrolments related to the industry was the relatively high rate of withdrawal from courses pertinent to the sector. In 1996 over 13% of module enrolments in the agriculture and renewable resources discipline group concluded as withdrawals. Across the board, fewer than 10% of module enrolments resulted in withdrawals. The overall pass rate in the agriculture and renewable resources group was about 58%, two percentage points below average.

In the 1997 ESS compiled by the National Centre for Vocational Education Research (NCVER), agriculture, forestry and fishing appeared to be a relatively significant employer of former trainees (26% of employers in the industry surveyed employed a recent completer of a traineeship) and also a significant employer of graduates in most other categories. By contrast, the industry was a relatively low employer of former apprentices.

Satisfaction with training

In the ESS, agriculture sector employers emerged as among the industries more satisfied with VET and TAFE provision, with an overall satisfaction rating of 6.8 on a 10-point scale for both total VET and the TAFE part of VET.

Employers surveyed were asked to identify those areas of training delivery that they regarded as most in need of improvement. Agriculture sector employers identified increasing the relevance of course content and improving flexibility in delivery arrangements, such as times and locations of courses or, in this case, probably a need for improved distance education. The issue of flexible delivery appears, understandably, to be more important in this sector than in other industries.

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[6] NCVER, *Australian vocational education and training statistics 1996: In detail*

The results of the 1997 TAFE GDS, also compiled by NCVER, provide a range of insights into training for agriculture and related areas. Data from that survey are available both according to the industry of employment of graduates and by the field of study undertaken. Unlike some other industry sectors, there is a field of study, land and marine resources and animal husbandry, which quite closely matches the training needs of the industry.

The 1997 GDS recorded 2.8% of graduates surveyed as working in the agriculture, forestry and fishing industry, similar to that recorded in the 1995 GDS (2.9%). In the 1997 survey, 3.9% of graduates had completed qualifications in the land and marine resources and animal husbandry field of study. There were about twice as many males as females graduating in this field of study.

When asked to relate the relevance of their studies to their employment, 47% of graduates working in the agriculture, forestry and fishing industry rated their course as 'highly relevant', a score at around the middle of the 17 industry sectors, while a further 27.3% rated the course of 'some relevance'.

VET graduates working in agriculture, forestry and fishing rated their course content well above the rating given by all graduates surveyed (see table 1.8). They were also happier with the information given to them when choosing their course although they were no happier than all graduates with the quality of information provided on careers and jobs available. Like all graduates, only 41% of the graduates working in agriculture, forestry and fishing gave a rating of 7 or more on a 10-point scale on this question. Graduates working in this industry were also more likely to give a lower rating to how well employers regarded their qualification. This outcome seems at odds with the relatively good rating for the sector in the ESS.

Employment outcomes

Graduates in the land and marine resources and animal husbandry field of study fared reasonably well in the labour market, with about 77% being employed when surveyed. This compared with an overall 71% of all graduates employed when surveyed.

The graduates working in the industry were most likely to have either a certificate (other) or an Australian Qualifications Framework (AQF) level II certificate. The next most common qualifications were a trade certificate and an AQF level III certificate. Those graduating in the land and marine resources and animal husbandry field of study mirrored this pattern of qualifications. To some extent, this qualifications profile understates the level of publicly funded qualifications, as the survey excludes the substantial number of graduates in New South Wales who attended agricultural colleges which are not part of the TAFE system in that State. The total government-funded effort referred to earlier does, however, include the training provided through these colleges.

At the time of the 1997 GDS, there were 1207 graduates working in the sector, of whom only 223 had not been employed before doing their course. There were 312 graduates from the land and marine resources and animal husbandry field of study unemployed, representing 3.4% of all unemployed graduates.

Incomes for graduates working in this sector were the fifth lowest out of the 17 industry sectors surveyed, at $421 per week for all workers. Full-time workers received on average $466, with male full-timers receiving $477 and females receiving $435. This male-female imbalance of $42 in full-time earnings was among the smaller income differentials when compared with the other industries surveyed. Only in retailing and accommodation were the differences noticeably less than this and, in a number of sectors, the gap between male and female *full-time* earnings was more than a hundred dollars, always in favour of males.

On the question of reasons for undertaking their course of study, graduates working in agriculture showed a different pattern of motivation than graduates in general. In fact, 36% of graduates said their main motivation was to get extra skills for their job. Fewer than 17% of all graduates gave this as their main motivation.

Apart from 'personal interest', the next main motivation was to get a job, with 17.6% of graduates in agriculture giving this as their motivation. Of all graduates, nearly 25% gave this as their motivation.

Graduates were asked to rate, on a 10-point scale, a number of aspects of their course. The following analysis compares the proportion, giving a score of 7 or better on the 10-point scale working in agriculture with all graduates.

Table 1.8: Rating of course by graduates employed in agriculture, forestry and fishing and all graduates

Issue	Agriculture, forestry and fishing %	All employed graduates %
Instructors' knowledge	89.5	85.2
Course content reflects industry practice	78.4	72.2
Presentation of material	78.8	73.2
Quality of equipment	70.1	62.2
Sufficient equipment	70.4	60.0
Info on choosing course	64.3	58.6
Info on careers/jobs	41.4	41.1
Usefulness for job prospects	69.9	71.8
Qualification well regarded by employers	60.9	64.9
Balance instruction and practice	78.0	69.8
Assessment method understood	80.8	78.5
Time/venue convenience	77.0	75.3
Overall course quality	89.3	84.1

Source: NCVER 1997, TAFE graduate destination survey, unpublished data

From the above table it is clear that overall graduates in agriculture were well satisfied with their TAFE course. Several issues, however, stand out from the above table. TAFE graduates working in the industry were less likely than all graduates to believe that their qualification was well regarded by employers and less likely to believe that their qualification was useful in enhancing their job prospects.

Whether this outcome results from a lack of regard for formal qualifications in the industry or from inherent shortcomings in the qualifications is difficult to judge. Nevertheless, the high scores given to other aspects of their course leads to the conclusion that while the graduates appreciated their formal learning experience, they do not believe that the industry is yet sufficiently appreciative of formal training.

Employer support for training

A moderately high 58% of students working in agriculture had received some form of support from their employer during their final semester of study, most commonly having their fees paid or receiving paid time off work. This compared with an overall figure of 51% for all graduates who were employed during their final semester. This suggests that employers in the sector are making at least some contribution to training for their industry.

Apprenticeships and traineeships have not figured prominently in this sector, although over the last few years there have been, on average, about 3300 apprentices throughout Australia in the horticulture industry.[7]

As noted earlier, this industry was not included in either ABS survey, the training expenditure survey or the training practices survey.

- Enrolments in courses related to agriculture appear tilted towards lower-level awards.
- There is an above-average attrition rate from courses in this industry.
- Employers in the industry appear quite satisfied with VET provision but naturally see the expansion of flexible and remote delivery as a high priority for improvement in the system.
- Employer support for training appears to be quite high but there are data deficiencies.
- Graduates working in the industry rated their TAFE course quite highly but did not think their qualifications were as well regarded as graduates working in other industries.

Some training issues in agriculture, forestry and fishing

- Data on training are more limited in this industry than elsewhere, especially in relation to employer needs and their contribution to training.

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[7] NCVER, Australian training statistics, September 1997 data collection

- There appear to be major emerging issues related to the older age structure of this industry and the low level of formal skills held by its workforce.
- Problems requiring immediate attention involve the broad issue of how new technologies being developed in the industry can be quickly and effectively disseminated to a geographically dispersed industry with low levels of current formal qualifications.

The following issues have been identified by the national ITABs as key emerging issues in training for the industry:

- The geographic isolation and nature of work in the industry necessitates vocational education being workplace based and supported by flexible distance learning arrangements.
- There is a need for formal evaluation of the effectiveness and consistency of the new training system.
- There is a need for a multi-industry, multi-media marketing campaign to target industry-specific groups about training packages and a continuing need for the products of research and development within the industry to be widely distributed using user-friendly formats.
- The forestry ITAB noted that:

  > *. . . regional and community involvement in training has the potential to enhance quality outcomes for industry, but there are some possible problems. There is, for example, the danger of duplication of effort and physical resources, which could mitigate against consistency in outcomes, reducing the portability of qualifications. While the industry supports user choice in training delivery, it should not be forgotten that there may be substantial benefits and economies to be achieved through an industry-wide position as opposed to local or regional arrangements.*

Notes

The following table is extracted from the ANTA resource allocations for 1997 document, available at their website. It shows the planned allocations of government-funded training between the ANTA-defined 'training areas' in terms of 'annual hours curriculum' (AHC).

Table A1.1: Key national shifts in activity between 1996 revised estimates and 1997 projected activity (AHC '000s)

Industry training area	1996 revised	1997 projected	Total increase	Total increase as % of 1996 revised	% of overall increase
Category A					
Arts, Entert, Sports and Rec	11 408	11 928	520	4.6	5.5
Automotive	8 221	8 576	355	4.3	3.7
Building and Construction	18 785	19 009	224	1.2	2.4
Comm Services, Health and Ed	20 910	22 382	1 471	7.0	15.5
Finance, Banking and Insurance	3 420	3 468	48	1.4	0.5
Food Processing	2 454	2 851	396	16.1	4.2
TCF and Furnishings	5 714	5 813	100	1.7	1.0
Communications	1 883	1 963	80	4.3	0.8
Engineering and Mining	15 654	16 607	952	6.1	10.0
Primary Industry	11 874	12 217	343	2.9	3.6
Process Manufacturing	397	479	82	20.6	0.9
Sales and Personal Service	6 527	6 752	225	3.4	2.4
Tourism and Hospitality	16 707	18 151	1 444	8.6	15.2
Transport and Storage	1 686	1 851	164	9.8	1.7
Utilities	11 898	12 145	247	2.1	2.6
Category B					
Business and Clerical	42 412	43 117	705	1.7	7.4
Computing	11 969	12 641	672	5.6	7.1
Science, Technical and Other	6 727	6 870	143	2.1	1.5
Category C					
Gen Education and Training	40 046	41 212	1 166	2.9	12.3
Unallocated	622	779	157	25.2	1.6
Total	**239 316**	**248 810**	**9 494**	**4.0**	**100.0**

Note: TCF – textiles, clothing and footwear

Source: Publications, *ANTA Resource Allocations 1997*, <www.anta.gov.au>

Table A1.2: Employed persons by occupation in agriculture, forestry and fishing

Occupation (ASCO 4-digit)	1987	1996	Change 1987 to 1996	
				Average annual
	('000s)	('000s)	('000s)	%
1401 Farmers and farm managers	257.6	235.3	–22.3	–1.0
3305 Ship's pilots and deck officers	4.7	5.4	0.0	1.6
4929 Sheep shearers	8.3	6.7	–1.6	–2.4
5301 Accounting clerks	7.7	13.8	6.1	6.9
7209 Agricultural plant operators	3.4	3.6	0.2	0.7
8199 Other trades assistants and factory hands	0.9	4.0	3.1	18.6
8201 Farm hands and assistants	83.5	94.9	11.4	1.5
8203 Forestry labourers	5.2	4.3	-0.9	-2.1
8205 Nursery and garden labourers	4.0	9.5	5.5	10.4
8925 Fishermen/women deckhands and seamen/women	7.0	5.9	-1.1	-1.9
Other occupations	31.5	42.8	11.3	3.6
Total all occupations	**413.8**	**426.2**	**12.4**	**0.3**

Note: As estimates of less than 3500 are subject to high statistical error, they are listed against specific occupations only where there was a higher estimate in either 1987 or 1996. Where estimates of less than 3500 were recorded for both 1987 and 1996, they are included in the 'other occupations' category

Source: ABS, Labour force survey, unpublished data

Table A1.3: Educational attainment of employed persons by industry, occupation (1-digit ASCO) and type of post-school qualification at 1996 Census

Agriculture, forestry and fishing	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
ASCO code and occupation									
1 Managers and Administrators	8 895	7 945	3 903	18 014	5 766	44 523	11 653	135 508	191 684
2 Professionals	2 022	473	308	530	483	3 816	494	1 932	6 242
3 Associate Professionals	626	293	328	605	303	2 155	386	2 660	5 201
4 Tradespersons and Related Workers	475	355	405	3 610	698	5 543	1 249	10 531	17 323
5 Advanced Clerical and Service Workers	306	323	190	138	290	1 247	512	3 361	5 120
6 Intermediate Clerical, Sales and Service Workers	336	222	256	502	383	1 699	576	4 204	6 479
7 Intermediate Production and Transport Workers	281	186	249	3 084	737	4 537	1 436	16 596	22 569
8 Elementary Clerical, Sales and Service Workers	62	48	41	137	61	349	120	1 316	1 785
9 Labourers and Related Workers	1 341	901	1 140	5 097	1 802	10 281	3 998	49 165	63 444
0 Inadequately described	84	63	41	218	47	453	126	1 147	1 726
Not stated	45	45	12	124	42	268	392	2 097	2 757
Not applicable	-	-	-	-	-	-	-	-	-
Total	**14 473**	**10 854**	**6 873**	**32 059**	**10 612**	**74 871**	**20 942**	**228 517**	**324 330**

Source: ABS, 1996 Census of population and housing

Table A1.4: Educational attainment of employed persons by industry, occupation (3-digit ASCO) and type of post-school qualification at 1996 Census

Agriculture, forestry and fishing	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
ASCO code and occupation									
100 Managers and Administrators ntd	178	153	71	230	76	708	159	1 089	1 956
110 Generalist Managers ntd	0	0	0	0	0	0	0	0	0
111 General Managers and Administrators	167	71	25	63	29	355	44	274	673
119 Miscellaneous Generalist Managers	37	15	23	213	20	308	60	363	731
120 Specialist Managers nfd	15	6	4	3	5	33	4	23	60
121 Resource Managers	130	47	31	20	24	252	34	238	524
122 Engineering, Distribution and Process Managers	79	32	21	65	11	208	23	199	430
123 Sales and Marketing Managers	79	27	22	28	16	172	21	138	331
129 Miscellaneous Specialist Managers	158	25	19	28	15	245	15	65	325
131 Farmers and Farm Managers	8 054	7 569	3 687	17 365	5 570	42 245	11 293	133 119	186 657
200 Professionals nfd	63	5	0	3	7	78	4	24	106
210 Science, Building and Engineering Professionals nfd	0	0	0	0	0	0	0	0	0
211 Natural and Physical Science Professionals	982	102	117	134	84	1 419	121	622	2 162
212 Building and Engineering Professionals	93	16	23	51	4	187	12	61	260
220 Business and Information Professionals nfd	3	0	3	0	3	9	0	3	12
221 Accountants, Auditors and Corporate Treasurers	171	19	45	4	6	245	26	101	372
222 Sales, Marketing and Advertising Professionals	46	13	9	14	8	90	13	82	185
223 Computing Professionals	65	6	13	3	8	95	3	41	139
229 Miscellaneous Business and Information Profs	138	18	28	29	12	225	31	137	393
230 Health Professionals nfd	0	0	0	0	0	0	0	0	0
231 Medical Practitioners	3	0	3	0	3	9	3	0	12
232 Nursing Professionals	26	31	0	3	12	72	12	25	109
238 Miscellaneous Health Professionals	121	3	0	0	0	124	4	5	133
240 Education Professionals nfd	3	0	0	0	0	3	0	1	6
241 School Teachers	78	27	20	6	7	138	14	112	264

Agriculture, forestry and fishing	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
242 University and Vocational Education Teachers	17	4	0	3	3	27	3	8	38
249 Miscellaneous Education Professionals	31	12	3	6	8	60	5	47	112
250 Social, Arts and Miscellaneous Professionals nfd	0	0	0	0	0	0	0	0	0
251 Social Welfare Professionals	27	12	7	7	5	58	7	26	91
252 Miscellaneous Social Professionals	48	0	3	3	0	54	0	13	67
253 Artists and Related Professionals	28	10	3	11	3	55	9	56	120
254 Miscellaneous Professionals	87	196	32	253	314	882	228	568	1 678
300 Associate Professionals nfd	3	3	3	0	6	15	5	23	43
310 Science/Engineering and Related Assoc Profs nfd	11	3	12	4	7	37	4	18	59
311 Medical and Science Technical Officers	134	46	83	98	61	422	57	404	883
312 Building/Engineering Associate Professionals	19	3	26	45	3	96	14	44	154
320 Business and Administrative Assoc Profs nfd	0	0	0	0	0	0	0	0	0
321 Finance Associate Professionals	28	9	7	8	10	62	13	85	160
329 Miscellaneous Business/Admin Assoc Profs	177	84	83	85	94	523	115	770	1 408
330 Managing Supervisors (Sales and Service) nfd	0	0	0	3	0	3	0	6	9
331 Shop Managers	163	89	63	208	70	593	83	733	1409
332 Hospitality and Accommodation Managers	4	11	0	28	5	48	16	64	128
339 Miscellaneous Mngr. Supervisors (Sales and Service)	47	27	19	81	19	193	49	326	568
340 Health and Welfare Assoc Professionals nfd	0	0	0	0	0	0	0	0	0
341 Enrolled Nurses	3	0	3	0	7	13	3	3	19
342 Welfare Associate Professionals	3	3	0	0	0	6	4	5	15
349 Miscellaneous Health and Welfare Associate Profs	3	0	0	0	0	3	0	4	7
390 Other Associate Professionals nfd	0	0	0	0	0	0	0	0	0
391 Police Officers	0	0	0	0	0	0	0	0	0
399 Miscellaneous Associate Professionals	29	16	29	43	19	136	22	175	333
400 Tradespersons and Related Workers nfd	5	11	6	73	9	104	10	103	217
410 Mechanical/Fabrication Engineering Trades nfd	0	0	0	3	0	3	0	0	3

Agriculture, forestry and fishing	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
411 Mechanical Engineering Tradespersons	11	9	8	484	13	525	50	224	799
412 Fabrication Engineering Tradespersons	3	3	3	187	9	205	39	148	392
421 Automotive Tradespersons	0	0	7	422	5	434	30	196	660
431 Electrical and Electronics Trades	0	0	6	141	3	150	11	33	194
440 Construction Tradespersons nfd	0	0	0	0	0	0	0	3	3
441 Structural Construction Trades	4	0	0	221	3	228	31	87	346
442 Final Finishes Construction Trades	0	0	3	47	0	50	7	61	118
443 Plumbers	0	3	0	51	4	58	11	49	118
451 Food Tradespersons	28	34	16	89	38	205	73	622	900
460 Skilled Agricultural/Horticultural Workers nfd	0	0	0	0	3	3	0	0	3
461 Skilled Agricultural Workers	82	106	129	910	350	1 577	571	5 282	7 430
462 Horticultural Tradespersons	319	170	211	810	229	1 739	357	3 230	5 326
490 Other Tradespersons and Related Workers nfd	0	0	0	3	0	3	0	0	3
491 Printing Tradespersons	3	0	0	4	0	7	0	16	23
492 Wood Tradespersons	0	0	3	13	0	16	3	24	43
493 Hairdressers	0	0	0	18	0	18	0	5	23
494 Textile, Clothing and Related Trades	0	0	0	3	0	3	3	18	24
498 Miscellaneous Tradespersons and Related Wkrs	17	17	10	134	31	209	51	430	690
500 Advanced Clerical and Service Workers nfd	0	0	0	0	0	0	0	0	0
511 Secretaries and Personal Assistants	181	191	115	70	197	754	322	1 982	3 058
590 Other Advanced Clerical and Service Wkrs nfd	0	0	0	0	0	0	0	0	0
591 Advanced Numerical Clerks	124	132	73	64	91	484	184	1 360	2 028
599 Miscellaneous Advanced Clerical and Service Wkrs	0	0	3	4	3	10	5	19	34
600 Intermediate Clerical, Sales and Service Wkrs nfd	0	0	4	0	4	8	3	14	25
610 Intermediate Clerical Workers nfd	0	0	0	0	0	0	0	0	0
611 General Clerks	102	68	44	53	113	380	139	1 090	1 609

Agriculture, forestry and fishing	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
612 Keyboard Operators	11	11	16	14	30	82	29	201	312
613 Receptionists	8	8	12	12	19	59	25	195	279
614 Intermediate Numerical Clerks	32	18	31	12	35	128	41	309	478
615 Material Record and Despatch Clerks	16	3	11	44	15	89	15	265	369
619 Miscellaneous Intermediate Clerical Workers	36	13	19	32	13	113	26	136	275
621 Intermediate Sales and Related Workers	25	25	20	54	12	[illegible]	29	303	468
630 Intermediate Service Workers nfd	0	0	0	0	0	0	0	3	3
631 Carers and Aides	28	29	21	29	23	130	45	277	452
632 Hospitality Workers	3	3	6	7	9	28	11	113	152
639 Miscellaneous Intermediate Service Workers	67	44	72	244	110	537	214	1 297	2 048
700 Intermediate Production and Transport Wkrs nfd	3	3	8	52	7	73	28	337	438
710 Intermediate Plant Operators nfd	3	3	0	23	0	29	16	142	187
711 Mobile Plant Operators	66	61	94	890	172	1283	364	5 335	6 982
712 Intermediate Stationary Plant Operators	4	0	0	43	17	64	26	208	298
720 Intermediate Machine Operators nfd	33	23	33	287	70	446	145	1 857	2 448
721 Intermediate Textile/Clothing/Related Mach Ops	6	3	0	41	7	57	24	185	266
729 Miscellaneous Intermediate Machine Operators	0	3	3	59	3	68	19	317	404
731 Road and Rail Transport Drivers	17	17	19	559	41	653	181	2 490	3 324
790 Other Intermediate Prod'n and T'port Wkrs nfd	0	0	0	0	0	0	0	0	0
791 Intermediate Mining and Construction Workers	3	0	3	17	3	26	6	65	97
799 Misc Intermediate Prod'n and Transport Wkrs	149	77	88	1 113	415	1842	627	5 660	8 129
800 Elementary Clerical, Sales and Service Wkrs nfd	0	0	0	3	0	3	0	10	13
811 Elementary Clerks	7	0	3	3	9	22	11	105	138
820 Elementary Sales Workers nfd	0	0	0	3	0	3	0	0	3
821 Sales Assistants	27	21	19	47	26	140	33	473	646
829 Miscellaneous Elementary Sales Workers	6	3	3	35	10	57	24	188	269
831 Elementary Service Workers	20	22	17	49	16	124	52	538	714
900 Labourers and Related Workers nfd	25	11	13	57	24	130	106	1 075	1 311

Agriculture, forestry and fishing	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
911 Cleaners	30	36	10	51	36	163	100	999	1 262
920 Factory Labourers nfd	0	0	0	3	0	3	0	9	12
921 Process Workers	28	9	20	151	58	266	140	1 579	1 985
922 Product Packagers	54	35	30	109	57	285	192	2 329	2 806
990 Other Labourers and Related Workers nfd	0	4	0	13	3	20	3	62	85
991 Mining, Construction and Related Labourers	33	18	11	208	40	310	101	1 287	1 698
992 Agricultural and Horticultural Labourers	1 157	772	1 045	4 373	1 557	8 904	3 286	41 204	53 394
993 Elementary Food Preparation and Related Wkrs	3	3	5	4	7	22	11	89	122
999 Miscellaneous Labourers and Related Workers	14	14	6	130	20	184	59	532	775
099 Inadequately described	84	63	41	218	47	453	126	1 147	1 726
Not stated	45	45	12	124	42	268	392	2 097	2 757
Not applicable	–	–	–	–	–	–	–	–	–
Total	**14 473**	**10 857**	**6 872**	**32 065**	**10 612**	**74 879**	**20 940**	**228 516**	**324 335**

Note: nfd – not further defined

Source: ABS, 1996 Census of population and housing

2 Mining

Mining is the second smallest industry division in terms both of employment and in the number of business units in Australia, larger only than the rapidly declining electricity, gas and water utilities sector. There are only about 83 000 persons working in the industry in Australia in about 2800 enterprises.[1] Over the last ten years employment in mining has declined by about 14%, or by around 14 000 jobs.

It is, however, a vital part of the Australian economy, accounting for about 18.5% of total Australian exports by value, behind manufactured exports which account for 51% of total exports and services, àccounting for 20.2%. It is ahead of the agricultural sector, which accounts for about 8.4% of exports.[2]

Most employment in mining is shared fairly evenly between coal and metal mining, with employment averaging between 25 000–30 000. The major metals mined in Australia are gold, iron ore, silver/lead/zinc, copper, bauxite and mineral sands. Among these sectors, gold and iron ore mining are the major employing sectors.

Over the last few years the value of Australian mineral production has risen from $25.7 billion in 1993–1994 to $28.7 billion in 1995–1996, the latest year for which data are available.

The mining industry has the highest average full-time wage rates of all industries in Australia, the lowest level of part-time employment, and has the lowest level of female employment of all Australian industries. Only about 12.5% of the employees in mining are females, whereas over 43% of the total Australian workforce are females.

Over the last decade Asia has become a more important destination for Australian mineral exports. By 1996–1997 Asia was receiving 68% of Australia's mineral exports, up from about 59% in 1988–1989. In the energy sector (largely coal exports), Australia's exposure to Asia has declined in recent years from about 64% in 1988–1989 to about 61% in 1996–1997. This was largely because of reduced dependence on Japan which was, however, offset by a big rise in exports to South Korea.[3]

Despite the declining economic situation in Asia, export earnings from minerals are expected to grow in 1997–1998, as the lower Australian dollar will offset lower commodity prices. Over the longer term most forecasters expect strong growth in Australian production of minerals and energy products but earnings are not expected to grow at the same rate as real prices decline. Continuing low world gold prices should inhibit growth in that sector.

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[1] Australian Bureau of Statistics (ABS), *Labour force, Australia*, cat.6203.0, November 1997

[2] Department of Foreign Affairs and Trade (DFAT) and ABS cat.5302.0, quoted in Industry Commission, *The changing of Australian manufacturing*

[3] Brian Fisher, executive director, Australian Bureau of Agricultural and Resource Economics (ABARE), *Outlook 98*, Australian Commodities Overview, <www.abare.gov.au>

The poor outlook for growth in Asia and thus Australian exports of mineral and energy products indicate that the recent high levels of investment in exploration, growing at around 10% per annum during the 1990s, and the development of new mines, might not proceed at the same rate as in recent years. The latest quarterly National Australia Bank (NAB) survey shows mining companies expect business conditions to deteriorate over 1998; however, the Reserve Bank expects investment growth in mining to be 'very strong' this financial year.[4]

The other important issue to consider is the importance of coal as a major component of Australian mine exports. International concerns over greenhouse gas emissions did not lead to stringent restrictions on coal consumption at the 1997 Kyoto Conference; however, it is unlikely that such concerns will disappear. With employment in coal mining accounting for a significant share of mining employment in Australia, and given its relatively geographically specific distribution, the long-term outlook for employment in the industry is uncertain.

Within vocational education and training (VET) there is a paucity of data allowing the identification of the level of government funding for mining industry training. Mining is included within the Australian National Training Authority (ANTA) 'training area' of engineering and mining. It is likely that most of the training undertaken within this category is not targetted at the mining industry. In 1995, 6.8% of training activity was directed specifically towards engineering and mining, while in 1996 this was expected to fall to 6.5%.

Employers in mining were big spenders on training. At the 1996 training expenditure survey, average expenditure on structured training per employee during the three-month survey period in the mining industry was $896, the highest of all industries and almost five times the all-industry average of $185.

In the technical and further education (TAFE) graduate destination survey for 1997 (GDS), compiled by the National Centre for Vocational Education Research (NCVER), only about 1% of TAFE graduates (429 persons) were working in the mining industry. Over 45% of these had completed either a trade certificate or a certificate (other). In the survey on employer satisfaction with VET for 1997 (ESS), also compiled by NCVER, employers in mining gave the VET sector the second lowest rating of all industries.

- **Mining is the second smallest industry division in terms of employment, accounting for less than 1% of total employment.**
- **Mining accounts for 18.5% of Australian exports.**
- **Exports to Asia have grown strongly over recent years; however, the Asian financial crisis is likely to inhibit growth in exports over the next few years.**
- **The industry has a very high proportion of males, full-time jobs and has the highest earnings of any industry.**

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[4] Reserve Bank of Australia Bulletin, February 1998

An industry snapshot

Employment in the mining sector, at 83 200, accounts for less than 1% of all jobs in Australia. As noted in the previous section, employment in the Australian mining industry has declined by 14% over the last ten years, largely reflecting changing extraction methods in the coal mining sector. While employment has declined the value of the industry's output, exploration and capital investment in the industry have all grown over recent years.

The outlook for employment in mining is clouded by continuing uncertainty in Australia's main Asian markets and by the longer-term impact of concerns over greenhouse gas emissions and the consequent impact on the coal mining industry.

As shown in table 2.1, mining industry employment is dominated by male full-time jobs, particularly in the coal mining and metal ore mining sectors. Mining has the lowest level of part-time jobs and jobs for women of all industry sectors. Only 2500 of the industry's 83 200 jobs in November 1997 were part time and only 9100 of the industry's employees were women. Only about 20% of the industry's workforce was born overseas, noticeably below the 24% average that applies across all industries.

Table 2.1: Employment ('000s) in mining by sub-division, by gender and type of employment, Australia, November 1997

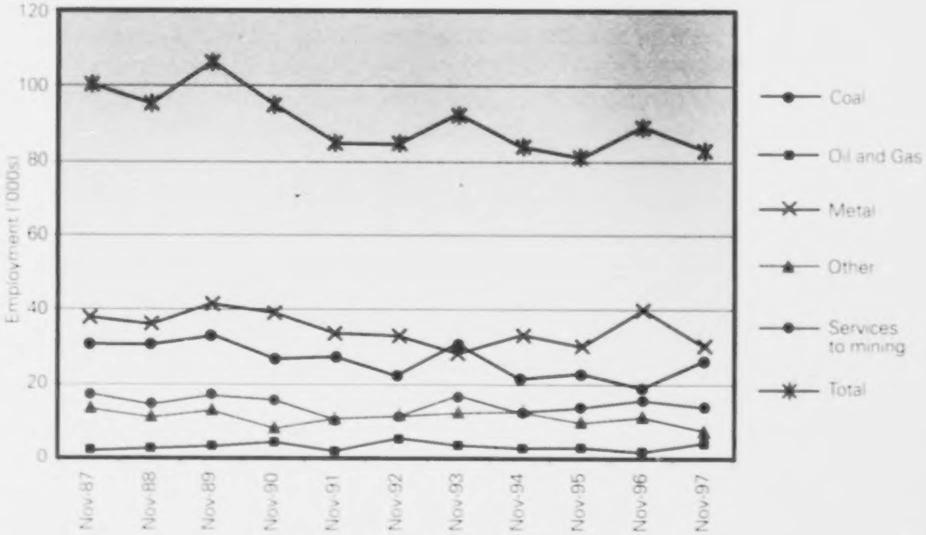
Industry sub-division	Males	Females	Full-time	Part-time	Total
Coal mining	25.7	0.8*	26.2	0.3*	26.5
Oil and gas extraction	4.5	0.3*	4.8	0.0*	4.8
Metal ore mining	26.6	3.7	29.8	0.5*	30.3
Other mining	5.9	1.3*	6.4	0.9*	7.3
Services to mining	11.5	2.9*	13.4	0.9*	14.3
Total	**74.2**	**9.1**	**80.7**	**2.5***	**83.2**

Note: *Subject to sampling variability too high for most practical uses

Source: ABS, *Labour force, Australia*, cat.6203.0, November 1997

Employment trends in the sub-sectors of the industry over the last ten years are shown in the following chart. It shows that overall employment has declined from 100 000 in November 1987 to 83 200 in November 1997. Employment in the individual sub-sectors has fluctuated over the last ten years, with a slow downward shift. Further downward movement is expected in the short to medium term, given the poor outlook for demand for energy and minerals in Australia's main Asian markets.

Chart 2.1: Employment in mining, by sub-division, Australia, 1987–1997 (ABS labour force survey)



Source: ABS, *Labour force, Australia*, cat.6203.0, 1987–1997

Table 2.2 shows the detailed breakdown of employment in the mining industry in Australia by the various types of mining activity. Even though the coal and metal ore sectors account for about the same level of employment, there are considerably less establishments in the coal sector and its wages and salaries are over 24% higher than that of the metal ore sector.

Table 2.2: Employment in mining by detailed activity, Australia, 1996–1997

Industry sub-sector	Establishments At 30 June	Employment At 30 June	Wages and salaries $million
Coal	179	25 760	2 093.6
Oil and gas	93	3 567	314.0
-Iron ore	22	6 466	444.8
-Bauxite	10	1 809	95.0
-Copper	20	2 664	155.1
-Gold	165	8 150	492.3
-Mineral sands	19	1 977	94.9
-Silver-lead-zinc	15	3 572	258.0
-Other metal	20	2 422	152.2
Total metal ore	271	27 059	1 692.3
Total	**543**	**56 386**	**4 099.9**

Source: ABS, *Mining, electricity and gas operations, Australia*, cat.8401.0, 1996–1997

Occupational composition

The mining industry differs from the total workforce's occupational composition in having a high proportion of its workforce in the intermediate production and transport group. It also has a well-above-average proportion in the tradespersons and related category, indicating that although employment in the sector is relatively small, it is significantly dependent on the VET sector for its skills formation.

The mining industry's broad workforce composition is compared with the composition of the total workforce in table 2.3. The industry has relatively fewer of its workers in the management and professional categories than the total workforce, indicating it is relatively less reliant on higher education than most industries. Importantly, it also has a very small proportion of its workforce, less than 7%, in the two lowest skilled categories, compared with over 20% of the total workforce found in these areas.

The high level of industry expenditure on structured training suggests a propensity for the industry to develop its own training arrangements to meet the very specific training requirements of the industry, together with the remote locations of mining activities. This approach is consistent with the industry's propensity to provide its own infrastructure when developing new projects, such as purpose-built mining towns, etc. The need for specific training arrangements in the mining industry perhaps explains why mining industry employers gave a relatively low rating to publicly provided VET.

Table 2.3: Occupational profile, mining and total workforce, Australia, November 1997

Occupation group	Mining %	Total workforce %
Managers and administrators	5.5	7.6
Professionals	15.3	17.4
Associate professionals	9.0	10.5
Tradespersons and related	20.8	13.2
Advanced clerical and service	1.9	4.5
Intermediate clerical/sales/service	4.8	17.1
Intermediate production/transport	36.1	9.2
Elementary clerical/sales/service	1.7	10.5
Labourers and related	4.9	10.1
Total	**100.0**	**100.0**

Source: ABS, *Labour force, Australia*, cat.6203.0, November 1997

Qualifications profile

In line with the overall decline in employment in the industry, most of the main individual occupations within the industry have also declined over the last decade. Specific movements are examined later in this chapter.

The qualifications profile of the industry follows the occupational profile outlined above. Table 2.4 shows that a disproportionately high number of workers in the industry have a trade qualification, a below-average number have a university qualification, and a below-average number are without formal post-school qualifications. While about 31% of the total workforce has qualifications in the 'middle-ranking' levels where VET is the provider, over 40% of workers in mining have this level of credential.

Table 2.4: Qualifications of mining workers, percentage distribution, Australia, May 1997

	Bachelor's degree or higher	Diploma/ associate diploma	Skilled vocational	Basic vocational	Without post-school qualification
Mining	12.4	6.9	26.2	7.7	46.5
Total industry	**17.2**	**9.0**	**12.6**	**9.4**	**49.4**

Source: ABS, *Transition from education to work*, cat.6227.0, May 1997

Occupational trends and skills shortages

As noted above, employment in the industry over the last decade has seen most of the main occupations in the industry decline. The following table highlights the changes in the industry's main occupations over the period 1987 to 1996. Note that this table uses the older Australian Standard Classification of Occupations (ASCO first edition) code, and differs from the occupational composition table above.

Table 2.5: Employment growth ('000s) in mining by selected occupation, Australia, 1987–1996

	Building professionals and engineers	Engineering and building technicians	Metal fitting and machining trades	Electrical and electronic trades	Road and rail drivers	Mobile plant operators	Stationary plant operators	Mining labourers	Total all occupations
1987	4.9	4.9	9.3	5.5	5.8	11.3	8.7	18.1	101.8
1996	3.7	2.8*	7.4	5.2	5.5	12.3	9.0	13.2	87.6
Change	**–1.2**	**–2.1**	**–1.9**	**–0.3**	**–0.3**	**1.0**	**1.3**	**–4.9**	**–14.2**

Note: *Subject to sampling variability too high for most practical uses

Source: ABS, *Labour force, Australia*, cat.6203.0, 1987, 1996

Only two occupations in mining saw growth over the decade—mobile and stationary plant operators. It is likely that many of these occupations are highly specific to the industry and hence this might explain the high level of industry own-purpose training expenditure. Their growth was about matched by the decline in trades occupations.

An above-average proportion of the mining industry employers surveyed in the ESS believed that there were sufficient VET graduates to meet current industry needs. The small proportion, about 20%, who thought there were shortages of graduates identified the plant operator category as the most common area of shortage. Of those identifying shortages, 64% identified this occupation, while 36% identified shortages in the trades area.

Quite a high proportion, 21%, identified shortages of mining labourers, perhaps reflecting the geographically remote nature of the industry. It could be also that this classification disguises as apparently unskilled, jobs that in fact have considerable skills content.

In 1997, the National Mining Industry Training Advisory Body (ITAB) reported to ANTA that:

> *Skill shortages in the mining and extractive industries fall into two categories: general skill shortages (literacy, occupational health and safety, communications, etc.) and industry-specific or technical skills (miners, open-cut examiners, mechanical and electrical engineers). Of serious concern is the shortage of qualified under-managers in the coal sector: underground coal mines are obliged by law to have a specified number of these officers.*
>
> *This shortage is of immediate concern in Queensland and New South Wales. Broken Hill projects a shortage in entry-level metalliferous miners in three to five years time; this is due to replacement of retiring miners rather than to increased employment numbers. In the drilling sector, shortages are being experienced in mechanical fitters, drillers and supervisors, particularly in central New South Wales. This is due to significant sector activity.*
>
> *Tasmania is experiencing shortages in professional occupations such as metallurgists, chemical engineers, mining and mechanical engineers. In addition, there are periodic regional shortages in the smelting and mining areas.*
>
> *The Western Australian minerals industry is undergoing major expansion and diversification. Insufficient numbers of apprentices are commencing within the industry, and there is a difficulty in maintaining a skilled workforce in remote locations. Short- and medium-term shortages include mechanical engineering and electrical tradespersons; multiskilled mobile plant operators; underground miners; metallurgical technicians, draftspersons; and specialist professionals, such as geoscientists and metallurgists.*
>
> *The Northern Territory has shortages in the following occupational areas: senior geologists; experienced field technicians; mobile plant operators; and supervisors.*
>
> *Job vacancies in South Australia have not yet been quantified, but appear to be related to expansion of existing operations, such as Olympic Dam. Some shortages of trained drilling plant operators already exist.*

Hours of work and earnings

Average weekly hours worked in the industry in November 1997 were 43.9, well above the all-industry average of 35.6 hours. The latest available average annual earning data show that mining employees were the highest earning workers in Australia, earning (in 1993–1994) $57 763 per annum, double the average at the time across all industries of $28 958.

Geographical distribution of mining

The geographical distribution of the industry is quite different from the distribution of employment generally. Most employment in mining is found in Western Australia and New South Wales. In New South Wales coal is the predominant employment sector while in Western Australia metalliferous mining is more significant. More importantly, employment in mining is mostly located away from the main population centres, providing an important source of jobs in rural and remote areas.

Table 2.6: Employment ('000s) in mining by State/Territory, 1995

	Mining employment by State/Territory								
	NSW	Vic	Qld	SA	WA	Tas	NT	ACT	Aust
Males	25.3	4.9	15.7	2.2*	23.0	1.4*	2.3*	0.2*	75.0
Females	0.6*	1.3*	3.2*	0.3*	3.7	0.3*	0.2*	0.0*	9.6
Total	**25.9**	**6.2**	**19.0**	**2.5***	**26.7**	**1.7***	**2.5***	**0.2***	**84.7**

Note: *Subject to sampling variability too high for most practical uses

Source: ABS, *Labour force, Australia*, cat.6204.0, 1995

- Employment in the mining industry has been declining over the last decade.
- The industry has a high proportion of workers with skilled vocational qualifications and a high proportion of tradespersons and a low proportion of university qualified workers.
- The industry has the lowest proportion of part-time workers and the lowest percentage of females of all industries in Australia.
- There is little evidence of widespread skills shortages in the sector although some specific areas of shortage exist in some States.

Training in mining

Government support for training

As noted earlier, it is difficult to identify the level of government support for training in the mining sector, as the statistics combine engineering and mining as one 'training area' in the ANTA statistics. That category accounted for 6.8% of the allocation of government training funds in 1995, declining to 5.8% in 1996. While it is difficult to estimate mining's share of this, it has such a small share of total employment that it would not be possible to argue that it is not receiving a reasonable share of training funds. Mining does, however, have an occupational profile which makes it relatively more dependent on the VET sector than most industries.

The other statistical classifications used in VET do not provide a better view of the degree to which VET is directly addressing the needs of the mining industry. Neither field of study nor discipline group specifically address mining skills.

Employer satisfaction with VET

At the 1997 ESS, only 0.4% of employers surveyed were mining industry employers with recent VET graduates. An above-average proportion of the industry's VET graduates had been employed before graduating. VET graduates working in mining were relatively more likely to hold one of the higher-level VET qualifications, a certificate or diploma.

Mining was also one of the industries more likely to use non-TAFE VET providers, with 30% of employers surveyed partly or fully using non-TAFE providers.

Mining was the industry with the second lowest satisfaction score for VET, rating non-TAFE providers slightly ahead of TAFE. The overall average satisfaction rating given was 6.1 on a 10-point scale. Most industries rated satisfaction with VET at 6.7 or 6.8. Only the accommodation, cafés and restaurants industry gave a lower rating to VET than mining.

When asked to identify the area of VET provision most in need of improvement, employers in mining most frequently nominated a need to improve the balance in VET courses between theory and practice. This response only rated sixth in importance across all industry sectors, indicating some specific issues in mining that should be investigated further.

The second area of improvement identified by employers was a need to improve graduates' work ethic, the area most frequently nominated by all employers.

VET graduates in mining

The GDS of 1997 found 1% of surveyed graduates working in the mining industry, about the industry's overall employment share. Graduates employed in mining rated the relevance of their training quite highly—53.8% rated their course as highly relevant, the fifth highest rating of all industries. Only 15.7% rated their training as of little or no relevance.

While most mining industry employment occurs in Western Australia, the largest share, 40.6%, of the graduates surveyed who were working in mining were in New South Wales. This would indicate that TAFE is providing more training to the sector in New South Wales and less to the sector in Western Australia and Queensland where the mining areas may be more remote.

Of the 429 graduates surveyed, the most common qualifications they had obtained were:

- trade certificate – 100
- certificate (other) – 95
- associate diploma – 50
- Australian Qualification Framework (AQF) certificate II – 47

Of these 429 graduates, only 81 (19%) had not been employed before starting their course, and only 4% were working part time when surveyed. Of those graduates who were employed during the final semester of their course a high proportion, 72%, received some form of financial support, mostly paid fees and/or paid time off work. This level of support was the second highest of all industries, behind only the electricity, gas and water industry.

Of those graduates who did not have a job on graduation, most had found their job in mining in less than three months.

Average weekly earnings of graduates working in mining were by far the highest of any industry for both males and females. Full-time male workers were earning $917 per week while full-time females earned $660. This $257 differential between male and female full-time earnings was the highest of any industry, despite the fact that this was the industry providing the highest level of earnings for female TAFE graduates.

While graduates in mining gave an overall good rating to the relevance of their course, there were some areas where approval ratings were below average. Graduates in the survey were asked to give a rating to a number of aspects of their course, scoring them on a 10-point scale. The areas receiving low rating were:

- whether course content reflected industry practice
- whether there was sufficient equipment for practising skills
- the adequacy of information received when choosing courses and subjects, and especially
- the adequacy of information provided about careers and jobs, where only 30% gave this item a score of 7 or better on the 10-point scale. The all-industry score on this item was a low 41%; however, the 30% rating in this industry is indicative of a specific failure to provide sufficient information on which to base sensible career choices

Respondents, on the other hand, gave a high rating to how well their qualification was regarded by employers and the overall quality of the course.

The most common motivations for undertaking the course for those working in mining was that the course was a requirement of their job. Almost all who gave this as their motivation were successful in achieving this end. Acquiring extra skills for their job, or achieving a better job or a promotion were the next most important motivators, again achieved either fully or in part by almost all respondents.

Apprenticeships in mining

As noted earlier, the trades category is an important one in the mining industry. Because mining is a relatively small area, separate data for apprenticeships in mining are not published in *Transition from education to work* (ABS, cat.6227.0) and are included in the 'other' category, along with nine other industries.

Table 2.7: No. of apprentices ('000s) by industry of employment, 1995–1997, Australia

Industry	1995	1996	1997
Manufacturing	35.2	30.5	25.2
Construction	26.3	27.5	23.2
Wholesale/retail	30.5	28.3	35.3
Accommodation/cafés/restaurants	5.7	8.8	13.7
Cultural/recreation/personal services	8.0	10.6	7.8
Other	**13.5**	**20.6**	**15.9**
Total	**114.6**	**126.3**	**121.1**

Source: ABS, *Transition from education to work*, cat.6227.0, May 1997

Employer support for training

The mining industry spends substantially more per employee on structured training than any other industry. The 1996 training expenditure survey shows that for July to September, mining sector employers spent $896 per employee on structured training compared with the next highest industry, air transport, which spent $557. The all-industry average was just $185.

While mining industry training expenditure was the highest of all industries, only 26% of employers in mining were providing training, well above the all-industry average of 18%. Training hours per employee were also the highest at over 17 compared with the average of just under five hours. Significantly, mining had lifted its training effort since 1993, whereas the all-industry average expenditure per employee fell over that period.

Some training issues in mining

- Because of its geographical characteristics, mining should be one of the main target industries for development of new remote technologies for training delivery.
- The question of equitable access to government funding needs to be explored further for this industry. The current 'training areas' used in data collection do not allow easy identification of training effort allocated to mining. Mining is a small industry in employment terms but one which is fairly heavily reliant on VET-level skills. At present it is the highest spending sector on industry training.
- Recent redundancies in the industry, not an uncommon feature of the industry, raise the question of the level of retraining necessary to assist miners displaced from one sector of the industry seeking work in other sectors or regions.
- The issue of improving the quality and relevance of information on careers and jobs in the industry also requires attention. The response of graduates in the GDS indicates that this is a particularly poorly addressed need.
- The downturn in Asian economies is likely to have a negative impact on demand for skills in mining in the short to medium term.
- Given the importance of coal mining to certain regional economies, especially in New South Wales and Queensland, the potential impact of greenhouse policies, which might reduce the demand for Australian coal exports, should be incorporated into planning for training and labour market program provision.

The national ITAB has raised the following as emerging VET issues:

- Projects of importance to the industry include:
    - research into delivery and assessment in geographically remote or isolated regions, particularly the investigation of the potential for using interactive multimedia
    - research into industry demographics, with emphasis on areas such as establishing a national database of skill shortages and mapping industry labour trends

Notes

The following table is extracted from the ANTA resource allocations for 1997 document, available at their website. It shows the planned allocations of government-funded training between the ANTA-defined 'training areas' in terms of 'annual hours curriculum' (AHC).

Table A2.1: Key national shifts in activity between 1996 revised estimates and 1997 projected activity (AHC '000s)

Industry training area	1996 revised	1997 projected	Total increase	Total increase as % of 1996 revised	% of overall increase
Category A					
Arts, Entert, Sports and Rec	11 408	11 928	520	4.6	5.5
Automotive	8 221	8 576	355	4.3	3.7
Building and Construction	18 785	19 009	224	1.2	2.4
Comm Services, Health and Ed	20 910	22 382	1 471	7.0	15.5
Finance, Banking and Insurance	3 420	3 468	48	1.4	0.5
Food Processing	2 454	2 851	396	16.1	4.2
TCF and Furnishings	5 714	5 813	100	1.7	1.0
Communications	1 883	1 963	80	4.3	0.8
Engineering and Mining	15 654	16 607	952	6.1	10.0
Primary Industry	11 874	12 217	343	2.9	3.6
Process Manufacturing	397	479	82	20.6	0.9
Sales and Personal Service	6 527	6 752	225	3.4	2.4
Tourism and Hospitality	16 707	18 151	1 444	8.6	15.2
Transport and Storage	1 686	1 851	164	9.8	1.7
Utilities	11 898	12 145	247	2.1	2.6
Category B					
Business and Clerical	42 412	43 117	705	1.7	7.4
Computing	11 969	12 641	672	5.6	7.1
Science, Technical and Other	6 727	6 870	143	2.1	1.5
Category C					
Gen Education and Training	40 046	41 212	1 166	2.9	12.3
Unallocated	622	779	157	25.2	1.6
Total	**239 316**	**248 810**	**9 494**	**4.0**	**100.0**

Note: TCF – textiles, clothing and footwear

Source: Publications, *ANTA Resource Allocations 1997*, <www.anta.gov.au>

Table A2.2: Employed persons by occupation in the mining industry, 1987 and 1996

ASCO code and occupation	1987	1996	Change 1987 to 1996	
				Average annual
	('000s)	('000s)	('000s)	%
3299 Other engineering and building assoc/technicians	4.1	2.3	–1.8	–6.4
4103 Metal fitters and machinists	9.3	7.4	–1.9	–2.6
4309 Electrical mechanics	3.3	4.7	1.4	4.1
7105 Truck drivers	4.9	5.4	0.5	1.1
7201 Excavating and earthmoving plant operators	10.8	12.2	1.4	1.4
7399 Other stationary plant operators	3.2	3.6	0.4	1.4
8415 Mining and mineral ore treating labourers	16.9	12.0	–4.9	–3.8
Other occupations	49.3	40.0	–9.3	–2.4
Total all occupations	**101.8**	**87.6**	**–14.2**	**–1.7**

Note: As estimates of less than 3500 are subject to high statistical error, they are listed against specific occupations only where there was a higher estimate in either 1987 or 1996. Where estimates of less than 3500 were recorded for both 1987 and 1996, they are included in the 'other occupations' category.

Source: ABS, Labour force survey, unpublished data

Table A2.3: Mining—major occupations by educational attainment at 1996 Census

Mining ASCO code and occupation	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
1 Managers and Administrators	2 531	280	334	909	233	4 287	358	1 768	6 413
2 Professionals	7 197	535	760	818	209	9 519	384	1 497	11 400
3 Associate Professionals	751	270	549	1 855	600	4 025	585	3 148	7 758
4 Tradespersons and Related Workers	253	112	449	12 770	245	13 829	854	4 419	19 102
5 Advanced Clerical and Service Workers	136	110	79	41	319	685	274	1 437	2 396
6 Intermediate Clerical, Sales and Service Workers	224	103	156	403	276	1 162	314	2 900	4 376
7 Intermediate Production and Transport Workers	214	184	224	5 688	656	6 966	1 822	19 620	28 408
8 Elementary Clerical, Sales and Service Workers	32	16	15	69	20	152	34	363	549
9 Labourers and Related Workers	77	43	55	798	105	1 078	312	3 056	4 446
0 Inadequately described	44	20	34	343	26	467	73	559	1 099
Not stated	15	6	5	45	6	77	66	170	313
Not applicable	–	–	–	–	–	–	–	–	–
Total	**11 474**	**1 679**	**2 660**	**23 739**	**2 695**	**42 247**	**5 076**	**38 937**	**86 260**

Source: ABS, 1996 Census of population and housing

Table A2.4: Educational attainment of employed persons by industry, occupation (3-digit ASCO) and type of post-school qualification at 1996 Census

Mining ASCO code and occupation	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
100 Managers and Administrators nfd	150	25	14	56	18	263	37	195	495
110 Generalist Managers nfd	0	0	0	0	0	0	0	0	0
111 General Managers and Administrators	398	30	27	34	12	501	40	115	656
119 Miscellaneous Generalist Managers	8	5	7	28	4	52	9	34	95
120 Specialist Managers nfd	39	7	5	7	3	61	5	15	81
121 Resource Managers	438	44	49	31	19	581	39	140	760
122 Engineering, Distribution and Process Managers	1 090	135	199	701	153	2 278	201	1 110	3 589
123 Sales and Marketing Managers	120	13	12	16	6	167	9	48	224
129 Miscellaneous Specialist Managers	281	18	19	21	15	354	12	50	416
131 Farmers and Farm Managers	3	3	3	15	3	27	6	61	94
200 Professionals nfd	44	5	7	5	4	65	6	23	94
210 Science, Building and Engineering Professionals nfd	6	0	0	0	0	6	0	0	6
211 Natural and Physical Science Professionals	3 099	60	50	24	27	3 260	64	214	3 538
212 Building and Engineering Professionals	2 076	199	433	456	48	3 212	132	292	3 636
220 Business and Information Professionals nfd	12	0	0	0	0	12	0	0	12
221 Accountants, Auditors and Corporate Treasurers	827	46	90	3	11	977	35	161	1 173
222 Sales, Marketing and Advertising Professionals	75	9	11	17	5	117	8	63	188
223 Computing Professionals	335	34	35	35	22	461	19	185	665
229 Miscellaneous Business and Information Profs	382	56	60	180	59	737	68	389	1 194
230 Health Professionals nfd	0	0	0	0	0	0	0	0	0
231 Medical Practitioners	7	0	0	3	0	10	3	7	20
232 Nursing Professionals	32	36	0	0	3	71	4	3	78
238 Miscellaneous Health Professionals	7	0	0	0	0	7	0	0	7
240 Education Professionals nfd	0	0	0	0	0	0	0	0	0
241 School Teachers	3	3	3	3	0	12	3	4	19
242 University and Vocational Education Teachers	3	3	0	0	0	6	0	3	9

Mining	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
249 Miscellaneous Education Professionals	4	3	0	3	3	13	0	5	18
250 Social, Arts and Miscellaneous Professionals nfd	0	0	0	0	0	0	0	0	0
251 Social Welfare Professionals	6	5	0	3	3	17	4	14	35
252 Miscellaneous Social Professionals	128	3	0	5	3	139	0	9	148
253 Artists and Related Professionals	9	6	4	14	3	36	3	21	60
254 Miscellaneous Professionals	140	67	68	64	21	360	33	102	495
300 Associate Professionals nfd	3	0	0	9	0	12	0	13	25
310 Science/Engineering and Related Assoc Profs nfd	13	3	11	32	7	66	4	57	127
311 Medical and Science Technical Officers	110	33	79	136	67	425	69	694	1 188
312 Building/Engineering Associate Professionals	212	122	301	1 239	383	2 257	332	1 423	4 012
320 Business and Administrative Assoc Profs nfd	0	0	0	0	0	0	0	0	0
321 Finance Associate Professionals	51	5	0	4	3	63	5	35	103
329 Miscellaneous Business/Admin Assoc Profs	271	73	108	181	70	703	90	563	1 356
330 Managing Supervisors (Sales and Service) nfd	0	0	0	0	0	0	0	0	0
331 Shop Managers	3	0	0	8	3	14	4	25	43
332 Hospitality and Accommodation Managers	0	4	0	51	3	58	9	21	88
339 Miscellaneous Mngr. Supervisors (Sales and Service)	30	6	3	45	3	87	8	78	173
340 Health and Welfare Assoc Professionals nfd	0	0	0	0	0	0	0	0	0
341 Enrolled Nurses	0	0	0	0	0	0	0	0	0
342 Welfare Associate Professionals	0	0	0	0	0	0	0	3	3
349 Miscellaneous Health and Welfare Associate Profs	3	0	3	9	0	15	3	9	27
390 Other Associate Professionals nfd	0	0	0	0	0	0	0	0	0
391 Police Officers	0	0	0	0	0	0	0	0	0
399 Miscellaneous Associate Professionals	54	21	41	140	64	320	60	224	604
400 Tradespersons and Related Workers nfd	12	8	19	558	10	607	41	116	764
410 Mechanical/Fabrication Engineering Trades nfd	0	0	0	48	0	48	3	9	60
411 Mechanical Engineering Tradespersons	130	35	169	6 127	61	6 522	304	980	7 806
412 Fabrication Engineering Tradespersons	6	4	11	1 303	10	1 334	68	217	1 619

Mining	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
421 Automotive Tradespersons	7	6	11	629	9	662	32	136	830
431 Electrical and Electronics Trades	23	14	188	2 880	37	3 142	110	435	3 687
440 Construction Tradespersons nfd	0	0	0	0	0	0	0	0	0
441 Structural Construction Trades	0	3	3	128	0	134	13	73	220
442 Final Finishes Construction Trades	0	0	0	27	0	27	3	13	43
443 Plumbers	0	0	3	93	0	96	7	53	156
451 Food Tradespersons	0	4	4	41	3	52	8	58	118
460 Skilled Agricultural/Horticultural Workers nfd	0	0	0	0	0	0	0	0	0
461 Skilled Agricultural Workers	0	0	0	3	0	3	0	0	3
462 Horticultural Tradespersons	3	3	3	16	3	28	7	61	96
490 Other Tradespersons and Related Workers nfd	0	0	0	5	0	5	0	18	23
491 Printing Tradespersons	0	0	0	5	0	5	0	5	10
492 Wood Tradespersons	0	0	0	0	0	0	0	5	5
493 Hairdressers	0	0	0	3	0	3	0	0	3
494 Textile, Clothing and Related Trades	0	0	0	0	0	0	0	3	3
498 Miscellaneous Tradespersons and Related Wkrs	69	38	39	904	112	1 162	258	2 237	3 657
500 Advanced Clerical and Service Workers nfd	0	0	0	0	0	0	0	0	0
511 Secretaries and Personal Assistants	102	91	59	25	300	577	244	1 213	2 034
590 Other Advanced Clerical and Service Wkrs nfd	0	0	0	0	0	0	0	0	0
591 Advanced Numerical Clerks	30	17	20	10	16	93	25	202	320
599 Miscellaneous Advanced Clerical and Service Wkrs	9	3	0	5	3	20	5	22	47
600 Intermediate Clerical, Sales and Service Wkrs nfd	0	0	0	3	0	3	0	6	9
610 Intermediate Clerical Workers nfd	0	0	0	0	0	0	0	0	0
611 General Clerks	44	38	37	50	74	243	86	795	1 124
612 Keyboard Operators	28	10	12	17	35	102	34	251	387
613 Receptionists	14	4	13	3	31	65	27	246	338
614 Intermediate Numerical Clerks	37	16	37	29	57	176	50	564	790
615 Material Record and Despatch Clerks	63	28	39	222	63	415	88	836	1 339

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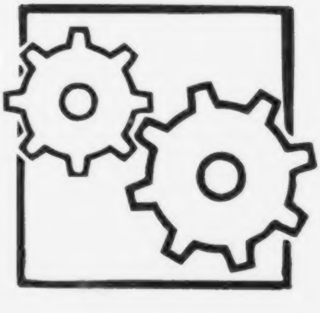
Mining	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
619 Miscellaneous Intermediate Clerical Workers	18	4	7	18	8	55	7	74	136
621 Intermediate Sales and Related Workers	24	0	10	43	0	77	11	70	158
630 Intermediate Service Workers nfd	0	0	0	3	0	3	0	3	6
631 Carers and Aides	3	0	0	12	3	18	4	15	37
632 Hospitality Workers	0	0	0	3	0	3	3	17	23
639 Miscellaneous Intermediate Service Workers	0	0	0	3	5	8	5	23	36
700 Intermediate Production and Transport Wkrs nfd	3	6	7	138	23	177	36	495	708
710 Intermediate Plant Operators nfd	4	3	3	164	13	187	85	934	1 206
711 Mobile Plant Operators	5	16	16	419	49	505	162	2 225	2 892
712 Intermediate Stationary Plant Operators	19	21	22	522	79	663	171	1 842	2 676
720 Intermediate Machine Operators nfd	15	14	20	650	74	773	228	2 493	3 494
721 Intermediate Textile/Clothing/Related Mach Ops	0	0	0	0	0	0	0	3	3
729 Miscellaneous Intermediate Machine Operators	3	3	0	37	3	46	5	118	169
731 Road and Rail Transport Drivers	10	23	13	507	74	627	231	2 427	3 285
790 Other Intermediate Prod'n and T'port Wkrs nfd	0	0	0	0	0	0	0	3	3
791 Intermediate Mining and Construction Workers	141	90	129	3 102	302	3 764	840	8 533	13 137
799 Misc Intermediate Prod'n and Transport Wkrs	9	10	14	147	38	218	63	549	830
800 Elementary Clerical, Sales and Service Wkrs nfd	0	0	0	0	0	0	0	0	0
811 Elementary Clerks	9	3	0	6	3	21	5	71	97
820 Elementary Sales Workers nfd	3	0	0	3	0	6	0	3	9
821 Sales Assistants	3	3	3	6	3	18	4	46	68
829 Miscellaneous Elementary Sales Workers	0	0	3	5	3	11	0	57	68
831 Elementary Service Workers	17	12	9	51	12	101	24	186	311
900 Labourers and Related Workers nfd	3	0	3	46	0	52	25	209	286
911 Cleaners	6	4	3	40	4	57	35	299	391
920 Factory Labourers nfd	0	0	0	0	0	0	0	0	0
921 Process Workers	8	5	3	83	12	111	32	317	460
922 Product Packagers	0	0	0	0	3	3	3	24	30

Mining	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
990 Other Labourers and Related Workers nfd	0	0	0	3	0	3	0	3	6
991 Mining, Construction and Related Labourers	58	28	42	498	71	697	178	1 820	2 695
992 Agricultural and Horticultural Labourers	0	0	0	8	3	11	0	50	61
993 Elementary Food Preparation and Related Wkrs	0	0	0	8	3	11	0	34	45
999 Miscellaneous Labourers and Related Workers	4	6	5	112	11	138	35	300	473
099 Inadequately described	44	20	34	343	26	467	73	559	1 099
Not stated	15	6	5	45	6	77	66	170	313
Not applicable	–	–	–	–	–	–	–	–	–
Total	**11 473**	**1 681**	**2 660**	**23 737**	**2 703**	**42 254**	**5 068**	**38 934**	**86 256**

Note: nfd – not further defined

Source: ABS, 1996 Census of population and housing



3 Manufacturing

EMPLOYMENT IN MANUFACTURING in Australia currently accounts for about 13.4% of jobs.[1] Ten years earlier, manufacturing accounted for 16.3% of total employment. The total number of jobs in manufacturing over the last ten years has fallen, however, by only a small amount—about 40 000 jobs, or by less than 3%. Its declining percentage share of jobs is attributable to the faster rate of growth in the services sector of the economy.

During the course of the last hundred years, manufacturing's significance, both as a provider of jobs and as a contributor to national gross domestic product (GDP), rose to a peak during the 1950s and 1960s, and has since declined in relative significance. Since the early 1970s manufacturing's share of national GDP has fallen from about 24% to around 15%. In the early 1970s manufacturing also accounted for about 25% of all Australian jobs. Despite the industry's decline in relative importance, manufacturing is still the second largest employing industry in Australia, behind retailing, with more than 1.1 million persons working in manufacturing.

The industry is very diverse, with some of the more significant components of the industry, in terms of employment, being machinery and equipment; food, beverages and tobacco; metal products; and printing, publishing and recorded media. Each of these sub-divisions of the industry employs more than 120 000 persons throughout Australia.

Despite the decline in manufacturing's share of employment, its actual level of employment has fallen over the last 30 years by only about 120 000. Within the industry, some sub-divisions have grown quite strongly over recent years, while others have lost a disproportionate share of jobs. After dropping markedly from the late 1980s, employment in manufacturing has shown positive growth since the early 1990s. (See chart 3.1 at end of this section.)

Manufacturing is one of the major customers of the vocational education and training (VET) sector in Australia. About 36% of those working in manufacturing have some form of VET qualification. Manufacturing is a relatively insignificant destination for university graduates, with only about 9% of its employees having a bachelor's degree or higher award compared to about 17% of all employed persons in Australia. More than half (about 54%) of the workers in manufacturing have no formal post-school qualifications, compared with about 49% for the workforce as a whole.

Manufacturing is an important employment destination for young people, with almost 10% of workers aged between 15–19 finding jobs in this industry. While retailing is by far the most significant employment destination for young people, accounting for almost half of all jobs for teenagers, these are predominantly part-time and casual jobs. Manufacturing's continued support of apprenticeships means it is a numerically significant source of jobs, especially jobs with structured training, for young people, especially for young males.

At the survey on employer satisfaction with vocational education and training for 1997 (ESS), compiled by the National Centre for Vocational Education Research (NCVER), manufacturing employers showed a relatively high level of satisfaction with VET provision, scoring it at 6.8 on a 10-point scale. This placed manufacturing in the top half of industries in terms of satisfaction with VET. This was almost identical to the score recorded in the 1995 ESS. Nevertheless, at the 1995 survey, 42% of manufacturing employers still believed that VET was not providing skills relevant to current employer needs.

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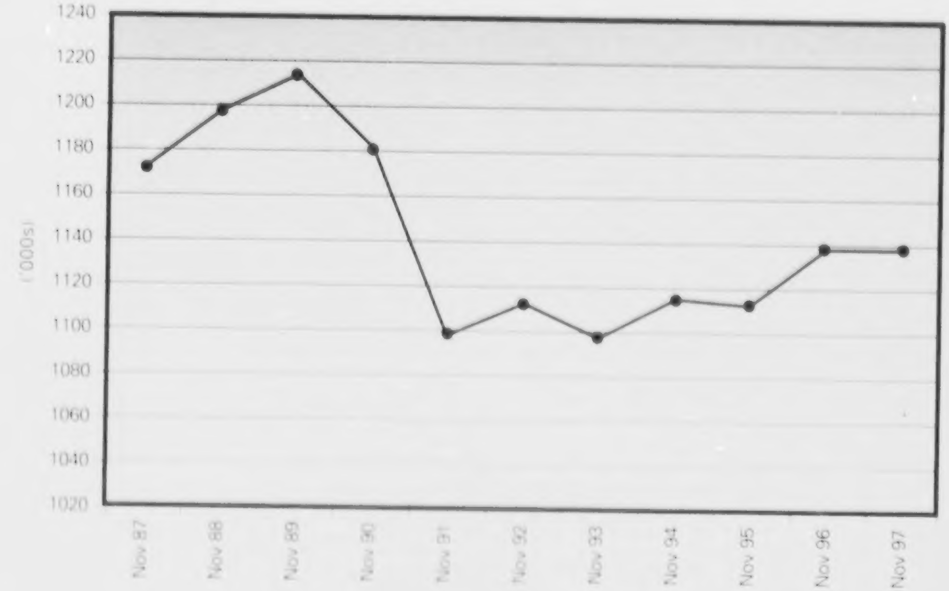
[1] Australian Bureau of Statistics (ABS), *Labour force, Australia*, cat.6203.0, November 1997

The technical and further education (TAFE) graduate destination survey for 1997 (GDS), also compiled by the NCVER, reinforced the importance of manufacturing as a destination for VET graduates. At that survey, manufacturing was the third major destination industry for VET graduates, behind health and community services—which had risen sharply from third in 1995 to being the major destination for VET graduates in 1997—and retailing. In 1997, 13.2% of all employed VET graduates surveyed were working in manufacturing, 83% of them on a full-time basis.

Of those graduates surveyed who were working in their final semester in manufacturing, 63% received some form of financial support from their employer, mainly in the form of paid fees and paid time off work. This was well above the all-industry average for employer support of around 51%. Graduates in manufacturing who were working full time received, on average, $584 per week, which was roughly a middle-level wage for all VET graduates in the survey.

It is expected that manufacturing employment will continue to grow over the next few years. Stronger employment growth is expected in non-metallic mineral products, metal products and in wood and paper products. Most forecasters believe there will be a reduction in employment in the textiles, clothing, footwear and leather products sector.

Chart 3.1: Manufacturing employment, Australia, November 1987–1997 (ABS labour force survey)



Source: ABS, *Labour force, Australia*, cat. 6203.0, 1987–1997

An industry snapshot

Manufacturing in Australia is a large and diverse industry, employing more than 1.1 million people. Despite comprising a smaller proportion of total jobs than during its ascendancy in the 1950s and 1960s, it is still the second largest employing industry in Australia behind retailing. While its employment level has fallen since the peak in the 1960s, over recent years employment in the industry has been rising again, spurred to some extent by growing markets for exports of Australian manufactured goods.

In 1994–1995 there were 69 400 businesses categorised as manufacturing, of which 67 900 were classified as small businesses. This means that the average size of a manufacturing establishment in Australia is just over 16 persons, larger than the average business across all industries, which is around nine to ten persons. Over 92% of those working in the industry are employees and almost 90% are full-time workers.

Manufacturing is the most important area of employment for persons born outside Australia. At the end of 1997 almost 400 000 persons born outside Australia were working in manufacturing, comprising 35% of the manufacturing workforce. Persons born outside Australia make up only 24% of the total workforce across all industries. Contrary to the prevailing view that manufacturing has an ageing workforce, the age structure of manufacturing generally reflects the overall pattern of the Australian workforce, apart from employing relatively fewer teenagers. This reflects the small number of part-time jobs in the industry.

- **Manufacturing is the second largest employing industry in Australia.**
- **Employment in manufacturing has grown by over 20 000 over the last three years.**
- **Manufactured goods make up more than 50% of our exports.**
- **The age structure of manufacturing is about the same as the total workforce.**
- **More than a third of all employees in manufacturing, almost 400 000 persons, were born overseas.**

The decline in manufacturing's significance is not unique to the Australian economy. The same trend has been evident in the other Organisation for Economic Co-operation and Development (OECD) countries, with the more resource-based economies having experienced shifts similar in dimension to those occurring in Australia.[1]

While employment in the industry has declined since the 1960s, its overall level of real output is more than double what it was in the 1960s. The composition of the industry has changed over the last ten years, with industries such as metal products; petroleum, coal and chemical products; and food beverages and tobacco showing strong growth. Productivity ('total factor productivity') growth in the industry has been, however, below that of other OECD countries, averaging about 1.5% per year over the last 20 years, compared to 1.8% for the main OECD countries.

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[1] Industry Commission, *The changing of Australian manufacturing*, 1996

Trade in manufactured goods

Manufacturing makes up the major component of Australian exports, accounting for 51% in 1994–1995, or $43.7 billion (see table A3.3 in the notes at the end of this chapter). However, this figure probably somewhat overstates the industry's overall contribution to the value-added component of exports.[3] In the decade to 1994–1995 the annual growth rate of Australian exports accelerated to 6.9%, compared with growth over the previous decade of only 3.7% per annum. Manufacturing accounted for almost two-thirds of this growth.

By 1994–1995, one quarter of sales by Australian manufacturers was exports. Strong exporters within the manufacturing sector have been metal products; food, beverages and tobacco; and machinery and equipment. About 18% of Australia's manufactured exports were sold to Japan, the largest single destination. Other major export markets were New Zealand, Singapore, Korea and the United States of America. A key feature in the growth of Australian manufactured exports has been the significant growth of 'elaborately transformed manufactures'. Table A3.3 in the notes at the end of this chapter shows details of sector shares in exports and growth in elaborately transformed manufactures.

While the growth of exports to Asian markets has been a major boost to Australian manufacturing performance in recent years, this was largely a product of the rapid growth in the size of that market. Australia's share of Asian imports actually fell during the decade up to the early 1990s, where most of the competition came from other Asian exporters. Medium-size manufacturing establishments (with 50–99 employees) are least likely to be exporters, with only 11.1% of their sales exports. Large firms are most likely to export, with 16.2% of their sales being exports, followed by small firms, with 14.4% of their sales being exports.[4]

Of course, over the same period imports of manufactured goods also rose, accelerating the pace of structural change in the domestic manufacturing sector. Strongest import growth over the decade occurred in metal products; machinery and equipment; and in petroleum, coal, chemical and associated products.

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[3] Industry Commission, *The changing of Australian manufacturing*, 1996, chapter 4

[4] ABS, *Manufacturing industry 1995–1996*, cat.8221.0

Employment trends within manufacturing sub-divisions

Changing domestic demand and reduced levels of protection, coupled with a greater exposure to international markets have changed the composition of the manufacturing sector and hence its training needs. Over the last decade some parts of the industry have shown little or no employment growth, while other industry sub-divisions have shown quite strong growth. Some sub-divisions, especially metal products, have shown little employment growth but, through improvements in productivity, have shown growth in their share of total value added.

Sizeable falls in employment occurred in textiles, clothing and footwear and in machinery and equipment in the decade from the mid-1980s to the mid-1990s. Since then, overall employment in total manufacturing and employment in those sub-divisions previously showing little growth over the past decade has either stabilised or begun to grow. Chart A3.3 in the notes at the end of this chapter shows details of employment trends in some of these sub-divisions over the last decade.

The following table shows the level of employment in each manufacturing sub-division as at November 1997.

Table 3.1: Employment ('000s) in manufacturing by sub-division, by gender and type of employment, Australia, November 1997

Industry sub-division	Males	Females	Full-time	Part-time	Total
Food, beverage and tobacco manufacturing	119.9	58.6	155.5	23.0	178.5
Textile, clothing, footwear and leather manufacturing	37.4	59.5	81.3	15.6	97.0
Wood and paper product manufacturing	58.5	12.0	64.0	6.5	70.6
Printing, publishing and recorded media	73.4	54.1	100.8	26.7	127.6
Petroleum, coal, chemical and associated product manufacturing	66.8	31.2	91.7	6.2	97.9
Non-metallic mineral product manufacturing	38.3	6.3	40.4	4.2	44.5
Metal product manufacturing	153.2	28.8	170.5	11.5	182.0
Machinery and equipment manufacturing	210.9	45.9	238.3	18.5	256.8
Other manufacturing	61.9	20.8	70.0	12.6	82.7
Total	**820.4**	**317.2**	**1012.7**	**124.9**	**1137.6**

Source: ABS, *Labour force, Australia*, cat.6203.0, November 1997

Among these industry sub-divisions, only the textiles, clothing, footwear and leather manufacturing group employs a majority of women. A substantial proportion of these women are of a non-English-speaking background, presenting a specific set of training issues for this sub-division.

- Manufacturing accounted for about two-thirds of our export growth over the last decade.
- Exports and imports of manufactured goods have both grown strongly over the last decade.
- Machinery and equipment manufacture is the largest single employing area within manufacturing, employing more than 250 000 people.
- Women make up only 28% of the manufacturing workforce, but are the majority of workers in textiles, clothing and footwear.

Occupational composition

The following table shows the broad occupational groups employed within the manufacturing sector, and compares their percentage share with the total workforce.

Table 3.2: Occupational profile, manufacturing and total workforce, Australia, November 1997

Occupation group	Manufacturing %	Total workforce %
Managers and administrators	7.9	7.6
Professionals	9.3	17.4
Associate professionals	5.0	10.5
Tradespersons and related	24.8	13.2
Advanced clerical and service	3.3*	4.5
Intermediate clerical/sales/service	9.7	17.1
Intermediate production/transport	19.5	9.2
Elementary clerical/sales/service	2.3*	10.5
Labourers and related	18.3	10.1
Total	**100.0**	**100.0**

Note: *Subject to sampling variability too high for most practical uses

Source: ABS, *Labour force, Australia*, cat.6203.0, November 1997

Manufacturing employment clearly varies from the total workforce in several important respects. It employs a high proportion of trades and related workers, intermediate-level production and transport workers, and labourers and related. Conversely it employs a relatively small proportion of professionals and para-professionals. Consequently, manufacturing is substantially more reliant upon the VET sector for its skill requirements than most industries.

Qualifications profile

The following table compares the qualifications profile of manufacturing with the total workforce across all industries. It shows that manufacturing skills are concentrated in the skilled vocational area. 'Skilled vocational' is defined as courses generally lasting from two to four years, typically a trade certificate, leading to employment in a recognised trade or craft requiring a high degree of skill in a range of related activities.

In other than the skilled vocational area, manufacturing has a relatively less qualified workforce than the labour force as a whole. Manufacturing employs a relatively small proportion of university graduates and those with the higher vocational qualifications of diploma and associate diploma. Manufacturing also has a higher proportion of workers without a post-school qualification.

Full details of the qualifications of workers employed in manufacturing by minor occupational group as at the 1996 Census are provided in table A3.6 in the notes at the end of this chapter, while summary data at the 1-digit occupational level is provided in table A3.4.

Table 3.3: Qualifications of manufacturing workers, percentage distribution, Australia, May 1997

	Bachelor's degree or higher	Diploma/ associate diploma	Skilled vocational	Basic vocational	Without post-school qualification
Manufacturing	9.4	6.3	21.5	8.6	53.8
Total industry	**17.2**	**9.0**	**12.6**	**9.4**	**49.4**

Source: ABS, *Transition from education to work*, cat.6227.0, May 1997

Occupational trends and skills shortages

As has been noted earlier, manufacturing is a diverse industry, ranging across activities from the simple processing of raw materials to the complex transformation of already complex components. Hence the range of skills used in the industry is similarly diverse.

While employment in manufacturing declined between 1987 and 1996, by November 1997 the level of employment in the industry was above the 1987 figure. The following occupational analysis is based on the period between 1987 and 1996 since, after that date, the Australian Bureau of Statistics (ABS) adopted the new version of the Australian Standard Classification of Occupations (ASCO) code.

In broad terms, over that decade the number of tradespersons in manufacturing declined by around 9% and machine operators and drivers declined by 17%. Increases occurred in the number of managers, professionals, para-professionals and salespersons, while the number of clerks and labourers remained fairly constant.

In the *trades* area in manufacturing, some of the main declines occurred in:

- metal fitting and machining—down about 20 000 jobs
    - in percentage terms big falls occurred for toolmakers (down 32%), metal fitters and machinists (down 23%), sheetmetal trades (down 26%)
- vehicle trades—down 5600
    - mechanics (down 19%), vehicle body makers (down 57%)

- electrical trades—down 3700
    - electrical fitters (down 49%) and electrical mechanics (down 29%)
- building trades—down 4400, mainly painters (down 60%)
- printing trades—down 4600
    - compositors (down 34%), binders and finishers (down 26%)
- other metal trades—down 3500

Some of these trades jobs lost were offset by a rise in the number of technicians, up by about 8200, and by a rise in the number of trades assistants, up 8000.

In the *white collar* area of manufacturing there was a redistribution of employment away from stenographers and typists (mainly typists, down 92%), whose numbers fell by 10 500, and from miscellaneous clerks, down 9400, towards data processing (up 6100) and numerical clerks, up 12 800. Sales representatives rose 9400 and sales assistants by 8200 (up 80%).

In other occupational areas, stationary plant operators and machine operators were down about 33 000 (with big declines in paper and in textiles/fabrics) and labourers declined by about 13 300.

When surveyed in the 1997 ESS, employers in manufacturing were about as likely as all employers surveyed to believe there were sufficient VET graduates to meet current needs. Of those surveyed in manufacturing, 66.8% said there were sufficient, while 26.5% said there were not; (6.7% could not say). Overwhelmingly, 72% of those who identified shortages (only just over a quarter of respondents) said they occurred in the trades area, although no further details were gathered.

The only significant rises in trades employment over the decade in manufacturing occurred in:

- welding
- screen printing
- baking and pastry cooking
- wood machining
- other wood trades
- upholstering and bedding
- garment trades

It is in these areas where shortages are most likely.

In light of the substantial reduction in the number of tradespersons in the industry, there needs to be further attention given to this issue. Is the reduction in the number of tradespersons largely a supply issue—that is, through insufficient numbers being trained via apprenticeships?

Alternatively, has the decline in the number of tradespersons reflected the changing skill demands of the industry? Thus, does the shortage reflect a residual of enterprises yet to adopt the technologies that have elsewhere displaced tradespersons? Or, has the pattern of demand changed away from metal trades towards wood and the other areas noted above, with the training system lagging in response to these changes?

Shortages of skilled workers have been identified by the printing sub-division in binding and finishing, desktop publishing and non-trade pre-press workers. It is also likely that inadequate training on new high technology equipment is not allowing the use of such equipment to its full potential.

Hours of work and earnings

About 90% of jobs in manufacturing are full time, well above the level of 75% for the whole labour market. In November 1997 jobs in manufacturing were distributed by sex and hours worked as shown in the following table.

Table 3.4: Manufacturing employment, by sex and hours worked, Australia, November 1997

	Full-time ('000s)		Part-time ('000s)		Total ('000s)	
	No.	%	No.	%	No.	%
Males	782.0	77.2	38.4	30.7	820.4	72.1
Females	230.7	22.8	86.5	69.3	317.2	27.9
Total	**1012.7**	**100.0**	**124.9**	**100.0**	**1137.6**	**100.0**

Source: ABS, *Labour force, Australia*, cat.6203.0, 1997

As table 3.4 shows, over 72% of all workers in this industry are males, making manufacturing a relatively male-dominated industry. Males make up just under 57% of the total workforce at present. However, the masculinity ratio of the industry divisions varies widely, from mining, which is almost 89% male, to health and community services, of which only 22% are males.

At May 1996, manufacturing sector earnings averaged a little below all industries. Average adult full-time weekly earnings (at 38 hours per week) for that period were $710.60, against an all-industry average of $723.90. Part-time employees in manufacturing, however, earned above the all-industry part-time average, but as these figures are not adjusted for actual hours worked, the comparison is not meaningful between industries.

Geographical distribution of manufacturing

The geographical distribution of employment in the various sub-divisions and in manufacturing as a whole is not even across Australia. Manufacturing employment is still concentrated in New South Wales and Victoria which, together, account for 66% of all manufacturing employment, well above their combined share of the total labour force, which is 58%.

Table 3.5: Employment ('000s) in manufacturing by State/Territory 1995

	NSW	Vic	Qld	SA	WA	Tas	NT	ACT
Males	269.1	251.6	137.5	76.1	65.6	17.1	2.5*	4.5
Females	98.5	95.4	47.3	24.3	20.4	4.8	0.5*	2.0*
Total	**367.7**	**347.0**	**184.7**	**100.4**	**85.9**	**21.9**	**3.0***	**6.5**

Note: *Subject to sampling variability too high for most practical uses
Source: ABS, *Labour force, Australia*, cat.6204.0, 1995

Table A3.5 in the notes at the end of this chapter provides details of employment by industry sub-division by State/Territory. (Note, the data reproduced in that table are based on a different collection method, a census of manufacturing establishments, than the data from the labour force survey quoted in table 3.5 above. Hence totals will not correspond.)

While New South Wales is the State with the largest number of jobs in manufacturing, as a proportion of total jobs, manufacturing is more significant to the labour markets of Victoria, South Australia and Tasmania. The smaller States are more likely to have manufacturing establishments in the food, beverages and tobacco sector, while in the larger States, printing and chemicals industries are more common. Victoria and South Australia have a high proportion of manufacturing employment in the machinery and equipment sub-division.

- Two-thirds of all manufacturing jobs are in New South Wales and Victoria.
- Victoria and South Australia are the States most reliant on manufacturing, with 16.9% and 15.3% respectively of their total employment in manufacturing.
- The Northern Territory and the Australian Capital Territory are least reliant on manufacturing jobs, with 3.8% and 4.1% respectively of their jobs in manufacturing.
- Proportions in the other States are: Tasmania 11.2%; New South Wales 13.4%; Queensland 12.3%; Western Australia 10.4%.

Training in manufacturing

Government support for training

The level of overall government support for manufacturing is difficult to gauge from the available statistical data, for at least two reasons. The 'training activity' categories used by the Australian National Training Authority (ANTA) include three separate areas that are predominantly manufacturing: food processing; textiles, clothing,

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footwear and furnishing; and process manufacturing. As well, ANTA groups engineering and mining together, much of which is likely to be training for basic manufacturing activities.

As well as these difficulties, it is clear that manufacturing, being such a large and diverse sector, employs a wide range of skills which are not specific to the industry, including professional, managerial, clerical and tradespersons. In 1996 ANTA estimated that just over 10% of total training activity (as measured in curriculum hours) would be in those areas noted above. (See table A3.1 in the notes at the end of this chapter.) It needs to be kept in mind that less than 60% of hours were allocated to specific industry training areas—over 40% of government VET-funded activity was targetted at general education; business and clerical; and related general areas of training. On this basis, then, about one-sixth of industry-specific VET activity was targetted at manufacturing in 1996, close to manufacturing's overall share of employment.

Using the same data, it is estimated that 28 hours of government-funded VET was provided for each employed person in food processing, 39 hours per employed person in textiles, clothing, footwear and furnishing, 40 hours for engineering and mining, and 11 hours per person in process manufacturing. In interpreting these figures it should be remembered that 91 hours per person were allocated for science, technical and other, and 58 hours for computing, skills which could be used in a number of industries, including manufacturing.

Employer satisfaction with VET

As noted earlier, the ESS showed employers in manufacturing to be among those relatively more satisfied with VET provision than most industries. Their average satisfaction score was 6.8 on a 10-point scale. This result was almost a replica of the overall satisfaction score achieved in the 1995 survey. In 1995, 73% of employers believed that VET skills acquired were relevant to their future needs, although a relatively high 42% believed that the VET system was not delivering skills appropriate to their current needs.

When asked which areas of VET were the highest priority for improvement, employers in manufacturing identified three areas in order:

i improving the relevance of course content

ii improving the work ethic of graduates

iii improving graduates' ability to work and cope with setbacks without supervision

- **Manufacturing is a major customer of the VET system, with 36% of its workers having a VET qualification.**
- **Employers are generally quite satisfied with VET provision but a sizeable proportion say VET is not delivering skills appropriate to their current needs.**

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VET graduates in manufacturing

At the 1997 GDS, manufacturing was the third most common industry of employment. Of those graduates surveyed, 13.2% were working in manufacturing, making manufacturing only slightly less important as an employment destination than health and community services (14.2%) and retailing (13.9%). Compared with the 1995 GDS, a slightly higher proportion of graduates had found employment in manufacturing in 1997, up from 12.6% in 1995.

Graduates working in manufacturing surveyed in the GDS tended to be satisfied generally with their VET course. Graduates rated the relevance of their course to their employment quite highly, with over 50% rating the relevance as 'high' and a further 29% rating their course 'of some relevance'. This placed manufacturing sixth out of the 17 industries, according to the graduates' relevance rating.

Generally, graduates working in manufacturing rated the various aspects of their course quite highly. For example, 83% of respondents in the 1997 GDS employed in manufacturing rated the quality of their course at least a 7 on a 10-point scale. This was about the same rating given by all employed graduates.

A relatively high proportion of graduates in manufacturing (about 22%), however, rated the provision of information on courses, subjects or modules as 5 or less on the same 10-point scale. Only 55% rated this item a 7 or better, below the 58.6% of all graduates giving a 7 or better on this issue. Perhaps related to the general issue of information provision, a markedly low 36% of graduates in manufacturing jobs gave a 7 or better to the provision of information on careers and jobs available. This was appreciably lower than the 41% of all graduates scoring this item a 7 or better.

Reflecting the distribution of manufacturing in Australia, about 75% of the graduates surveyed lived in New South Wales or Victoria. Also, reflecting the industry's occupational composition, the most common qualification held by the graduates surveyed was a trade certificate. In all, 1568 of the employed graduates had completed a trade certificate, indicating that they had completed an apprenticeship. The second most common qualification was a certificate (other), held by 1307 of the graduates. Combined, these two qualifications accounted for just under half of all the 5685 graduates surveyed who were working in manufacturing.

Moreover, it indicated that manufacturing was the second most significant destination for all apprentices completing their course. Only construction, with 1608 graduates with a trade certificate, employed more than manufacturing. On the other hand, manufacturing does not appear to be a major employer of trainees or former trainees.

For those graduates for whom getting a job was the main reason for undertaking their course, 67% of those working in manufacturing said that they had achieved their objective, slightly higher than the 65% of all employed graduates. For a substantial proportion of graduates in manufacturing, the main reason for undertaking their course was that it was a requirement of the job they were doing; again, this is probably related to the high incidence of apprenticeships in the industry. Almost all who gave this as their motivation said that they had achieved this outcome.

Other important motivations were 'getting extra skills' or 'getting a better job or a promotion'. About half achieved the latter objective and about 75% achieved the former.

- ❖ **Manufacturing was one of the main industries of employment for new VET graduates.**
- ❖ **Graduates generally rated the quality and relevance of their courses quite highly.**
- ❖ **Improvements seem to be needed in information provision on both courses and careers.**

Employment outcomes

A relatively high proportion of all graduates working in manufacturing already had a job on graduation (73.4%), compared to all graduates surveyed (66%). Again reflecting the characteristics of the industry, over 90% of the graduates surveyed were working full time, well above the overall figure of 66% for all graduates in the survey. For more than half of those working, the job they were in at the time of the survey was not their first full-time job. This pattern was common across most industries.

Average weekly earnings for graduates surveyed were $557, with males earning $586 and females $474. This wide gap between male and female earnings was not uncommon across the industries surveyed for VET graduates. To some extent it might reflect a greater propensity for females to work part time. However, when full-time earnings for males and females are compared, substantial gaps are still evident. Full-time earnings for the male graduates surveyed working in manufacturing were $584 compared to $534 for females.

This income differential was probably about average for all industries. Some, such as mining, showed a much larger gap in male and female full-time earnings—$311. There was no industry where female full-time earnings equalled or exceeded male. However, in retailing the gap in favour of males was only $4. In part-time work there were several instances of female earnings exceeding male. However, as no comparison of actual part-time hours worked is possible from the data, it is not valid to draw any conclusions from this result.

Apprenticeships in manufacturing

Over the last three years manufacturing has been one of the three main industries employing apprentices. In 1995 and 1996 it was, in fact, the major employer of apprentices, as the following table shows:

Table 3.6: No. of apprentices ('000s) by industry of employment, Australia,1995–1997

Industry	1995	1996	1997
Manufacturing	**35.2**	**30.5**	**25.2**
Construction	26.3	27.5	23.2
Wholesale/retail	30.5	28.3	35.3
Accommodation/cafés/restaurants	5.7	8.8	13.7
Cultural/recreation/personal services	8.0	10.6	7.8
Other	13.5	20.6	15.9
Total	**119.2**	**126.3**	**121.1**

Source: ABS, *Transition from education to work*, cat.6227.0, May 1997

The major trades represented in manufacturing and the numbers of apprentices in training in those trades in 1997 are shown in the following table.

Table 3.7: Main apprenticeship areas in manufacturing

Occupation group	Number in training, 1997
Metal fitting and machining	10 235
Other metal trades	9 690
Printing	3 160

Source: NCVER, Australian training statistics, September 1997 data collection

Employer support for training

Graduates who had been employed during their final semester of study in manufacturing were somewhat more likely to have received some form of support from their employer than had the average graduate. In fact, 63% of graduates working in manufacturing in their last semester received some form of support, compared to around 51% of all graduates. The support was most commonly the payment of fees or the provision of paid leave to attend classes.

The relatively high proportion of apprentices among these graduates would, in part, account for this higher-than-average level of employer support. Nearly half of the employed graduates surveyed who were employed in manufacturing were working with the same employer before beginning their course, during their course and at the time they were surveyed.

The ABS 1996 employer training expenditure survey (TES) showed manufacturing to be an industry with slightly above-average levels of employer support for structured training, with about 21.5% of employers surveyed providing training during the three-month reference period. On average across all industries, only 17.8% of employers provided training according to the TES.

Some areas of manufacturing, however, did not compare well with the average. Three sub-divisions of manufacturing showed below-average employer provision of training:

- printing, publishing and recorded media, with only 13.3% of employers providing training

- metal products, with 15.2% providing training
- non-metallic mineral products, with 16.4% providing training

The sample sizes upon which these estimates are based might not be reliable, so no firm conclusions should be drawn from these figures.

The employer TES of 1996 showed that employers in manufacturing allocated about 2.2% of their gross wages and salaries to structured training, below the all-industry average of 2.5%. However, manufacturing's total training expenditure per employee was slightly above average ($194 versus $185) as was its average hours of training per employee (5.4 hours versus 4.9 hours).

Despite manufacturing's relatively lower usage of structured training overall, manufacturing is still a relatively high user of apprenticeships. The TES shows that the highest category of structured training expenditure within manufacturing was on trade and apprenticeship training, averaging at 1.74 hours per employee. This was the third highest level of activity on trade and apprentice training on an industry basis, behind construction (2.22 hours on trade and apprenticeship training per employee) and the relatively small mining sector, with 3.65 hours per employee.

Compared with the 1993 TES, expenditure on training by manufacturing sector employers in 1996 was down substantially. In 1993 nearly 47% of employers in the industry were providing training and spent, on average, $205 per employee, compared with $194 in 1996. This equalled 2.63% of their gross wages and salaries. In absolute dollar terms, their expenditure fell from $184.3 million in 1993 to $161.4 million in 1996, a fall of 12.4%. Over the three years, training hours per employee fell from 6.55 hours in 1993 to 5.42 hours in 1996, or by 17.25%.

Manufacturing sector employers reduced their expenditure on structured training by more than 12% between 1993 and 1996, and the average training hours per employee fell by over 17%.

At the industry sub-division level the largest declines in training expenditure occurred in textiles, clothing and footwear (down 41%), and in printing, publishing and recorded media (down 55%). Only three of the manufacturing sub-divisions recorded a rise in training expenditure over the three-year period: machinery and equipment (up 21%); wood and paper products (up 14%); and non-metallic mineral products (up 45%). Again, because of relatively small sample sizes at the industry sub-division level, these figures should be interpreted with caution.

Some training issues in manufacturing

- Manufacturing has a lower skills profile than the labour force as a whole. Is this a cause for concern or simply a valid reflection of the sector's skill mix?

- Why did 42% of employers in the 1997 ESS regard VET as not providing skills relevant to current needs?
- Is there a need to achieve more flexible working hours in manufacturing and, if so, what training implications would that have?
- What are the implications of structural change in manufacturing for future training needs?
- Why do some employers continue to identify skills shortages for tradespersons when the level of trades employment has fallen significantly over the last decade?
- How can we achieve a better fit between Australian and New Zealand Standard Industry Classification (ANZSIC)-based industry statistics and government-funded training activity statistics?
- How can the provision of information on courses, subjects and modules be improved?
- What can be done to improve the level of information on careers and jobs in manufacturing?
- Is there a need for more, higher-level VET places in courses teaching generic management and supervisory skills in manufacturing?
- Can strategies other than 'training guarantee' type sanctions once again lift the level of industry-provided training in manufacturing?
- What level of cost-shifting has occurred from industry to government over the last five years in the provision of training for manufacturing?
- How can traineeship/new apprenticeship arrangements be promoted in manufacturing, and are they what is needed?
- Why do such large income differentials exist for male and female VET graduates in manufacturing?
- What specific strategies need to be developed to address training needs of the high level of workers from a non-English-speaking background in manufacturing?

Notes

The following table is extracted from the ANTA resource allocations for 1997 document, available at their website. It shows the planned allocations of government-funded training between the ANTA-defined 'training areas' in terms of 'annual hours curriculum' (AHC).

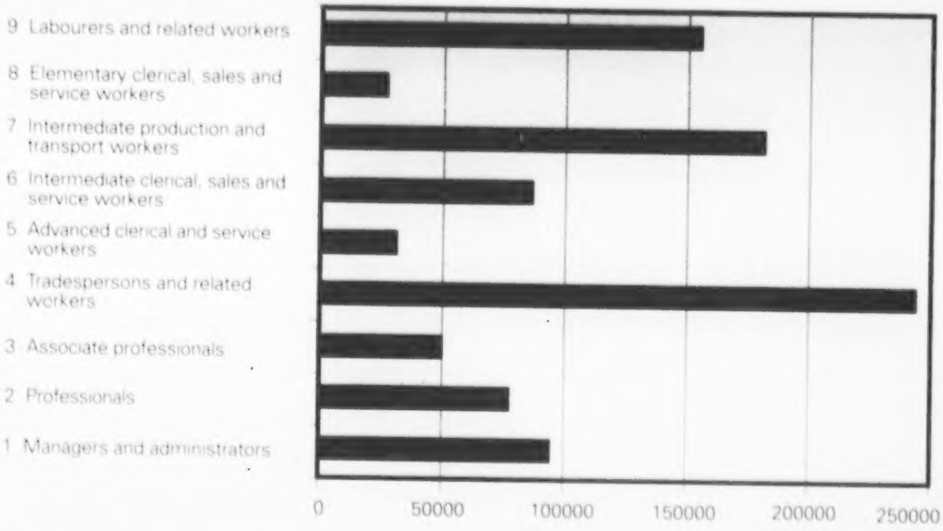
Table A3.1: Key national shifts in activity between 1996 revised estimates and 1997 projected activity (AHC '000s)

Industry training area	1996 revised	1997 projected	Total increase	Total increase as % of 1996 revised	% of overall increase
Category A					
Arts, Entert, Sports and Rec	11 408	11 928	520	4.6	5.5
Automotive	8 221	8 576	355	4.3	3.7
Building and Construction	18 785	19 009	224	1.2	2.4
Comm Services, Health and Ed	20 910	22 382	1 471	7.0	15.5
Finance, Banking and Insurance	3 420	3 468	48	1.4	0.5
Food Processing	2 454	2 851	396	16.1	4.2
TCF and Furnishings	5 714	5 813	100	1.7	1.0
Communications	1 883	1 963	80	4.3	0.8
Engineering and Mining	15 654	16 607	952	6.1	10.0
Primary Industry	11 874	12 217	343	2.9	3.6
Process Manufacturing	397	479	82	20.6	0.9
Sales and Personal Service	6 527	6 752	225	3.4	2.4
Tourism and Hospitality	16 707	18 151	1 444	8.6	15.2
Transport and Storage	1 686	1 851	164	9.8	1.7
Utilities	11 898	12 145	247	2.1	2.6
Category B					
Business and Clerical	42 412	43 117	705	1.7	7.4
Computing	11 969	12 641	672	5.6	7.1
Science, Technical and Other	6 727	6 870	143	2.1	1.5
Category C					
Gen Education and Training	40 046	41 212	1 166	2.9	12.3
Unallocated	622	779	157	25.2	1.6
Total	**239 316**	**248 810**	**9 494**	**4.0**	**100.0**

Note: TCF - textiles, clothing and footwear

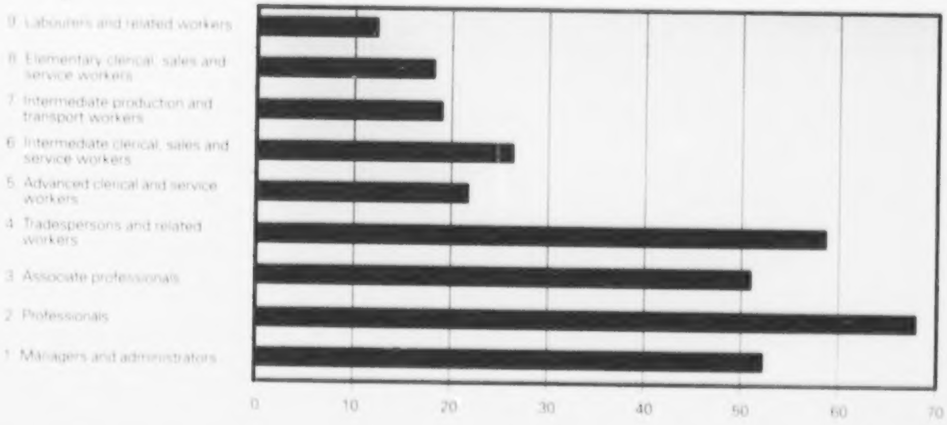
Source: Publications. *ANTA Resource Allocations 1997*, <www.anta.gov.au>

Chart A3.1: Employment in manufacturing by major occupational group, 1996 Census



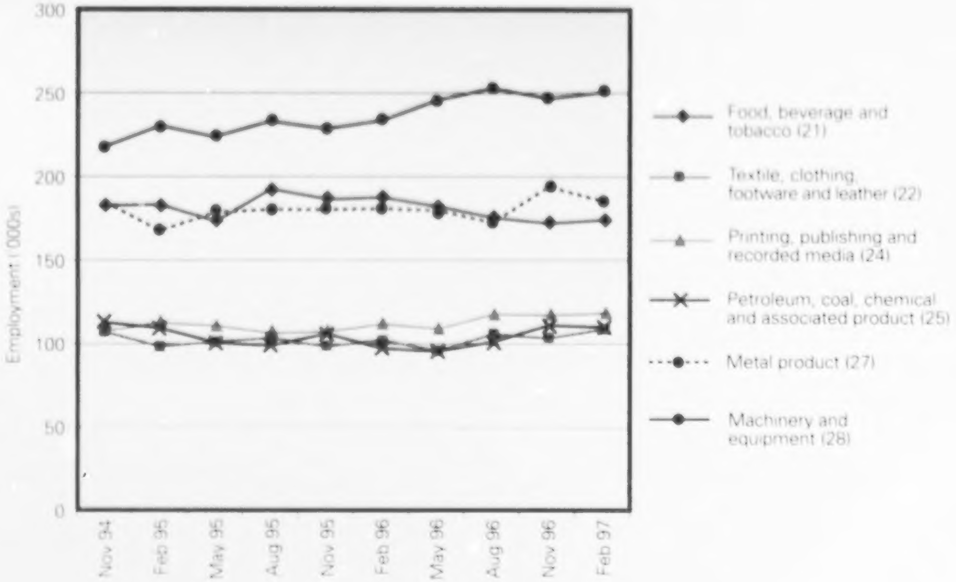
Source: ABS, 1996 Census of population and housing, unpublished data

Chart A3.2: Manufacturing industry workers, % with qualifications, 1996 Census



Source: ABS, 1996 Census of population and housing, unpublished data

Chart A3.3: Employment in selected manufacturing sub-divisions, Australia 1994–1997 (ABS labour force survey)



Source: ABS, *Labour force, Australia*, cat.6203.0, 1994–1997

Table A3.2: Employed persons by occupation in the manufacturing industry, 1987 and 1996

ASCO code and occupation	1987	1996	Change 1987 to 1996	
				Average annual
	('000s)	('000s)	('000s)	%
1201 General managers	10.0	12.2	2.2	2.3
1303 Sales and marketing managers	14.2	13.0	-1.2	-1.0
1305 Production managers	22.2	19.1	-3.1	-1.7
1399 Other specialist managers	1.6	3.7	2.1	10.1
1501 Shop managers	1.7	3.5	1.8	8.6
1601 Managing supervisors (other business)	22.9	30.0	7.1	3.1
2101 Chemists	4.7	3.9	-0.8	-2.1
2211 Electrical and electronics engineers	6.5	6.7	0.2	0.3
2213 Mechanical engineers	8.4	10.1	1.7	2.1
2701 Accountants	7.0	9.8	2.8	3.9
2707 Computing professionals	4.9	8.0	3.1	5.8
2805 Designers and illustrators	5.5	5.5	0.0	0.0
2807 Journalists	8.1	7.0	-1.1	-1.7
3103 Science technical officers and technicians	1.6	7.6	6.0	19.5
3201 Electrical and electronic engineering assoc./technicians	4.6	7.2	2.6	5.3
3205 Mechanical engineering associates and technicians	4.7	3.2	-1.5	-4.3
3913 Procurement officers	3.7	5.7	2.0	5.1
3999 Other para-professionals (including ex-service)	4.2	0.5	-3.7	-21.6
4101 Toolmakers	11.5	7.8	-3.7	-4.3
4103 Metal fitters and machinists	74.4	57.6	-16.8	-2.9
4203 Sheetmetal tradespersons	14.8	10.9	-3.9	-3.4
4205 Structural steel boilermaking/welding tradespersons	42.9	46.7	3.8	1.0
4211 Aircraft maintenance engineers	3.8	3.3	-0.5	-1.6
4213 Precision metal tradespersons	3.5	2.9	-0.6	-2.1
4303 Electrical fitters	4.9	2.5	-2.4	-7.4
4309 Electrical mechanics	14.2	10.1	-4.1	-3.8
4401 Carpenters and joiners	11.6	12.5	0.9	0.9
4405 Painters decorators and signwriters	5.3	2.1	-3.2	-10.0
4501 Compositors	6.8	4.5	-2.3	-4.6
4503 Graphic reproduction tradespersons	3.6	2.9	-0.7	-2.4
4505 Printing machinists	23.1	20.8	-2.3	-1.2
4507 Binders and finishers	3.5	2.6	-0.9	-3.3
4511 Screen printers	2.8	4.4	1.6	5.3
4601 Vehicle mechanics	6.9	5.6	-1.3	-2.4
4607 Vehicle body makers	4.4	1.9	-2.5	-9.2
4701 Meat tradespersons	8.6	5.4	-3.2	-5.2
4703 Bakers and pastrycooks	5.9	9.5	3.6	5.6
4901 Wood machinists and turners	4.9	5.4	0.5	1.1

	1987 ('000s)	1996 ('000s)	Change 1987 to 1996 ('000s)	 Average annual %
4903 Cabinetmakers	18.7	19.2	0.5	0.3
4905 Other wood tradespersons	3.7	5.3	1.6	4.2
4911 Garment tradespersons	7.3	9.3	2.0	2.8
4913 Upholsterers and bedding tradespersons	4.7	7.8	3.1	6.0
4915 Shoemaking and repairing tradespersons	3.5	2.1	–1.4	–5.7
4999 Other tradespersons	2.8	5.7	2.9	8.5
5101 Office secretaries and stenographers	22.8	18.6	–4.2	–2.3
5103 Typists and typist-clerks	6.3	0.5	–5.8	–25.1
5201 Data processing machine operators	11.7	17.9	6.2	5.0
5301 Accounting clerks	42.6	55.6	13.0	3.1
5503 Transport recording and despatching clerks	6.6	5.0	–1.6	–3.1
5505 Stock and purchasing clerks	10.1	9.6	–0.5	–0.6
5601 Receptionists and information clerks	8.7	12.6	3.9	4.3
5999 Other clerks	11.5	1.3	–10.2	–22.1
6201 Sales representatives	24.6	34.0	9.4	3.8
6301 Sales assistants	10.2	18.4	8.2	7.0
7105 Truck drivers	20.1	17.9	–2.2	–1.3
7203 Forklift and related drivers	13.2	15.5	2.3	1.9
7305 Chemical plant operators	4.7	3.3	–1.4	–4.0
7311 Crane operators	4.0	3.7	–0.3	–0.9
7315 Furnace and kiln operators	4.2	5.2	1.0	2.5
7399 Other stationary plant operators	6.0	5.9	–0.1	–0.2
7401 Basic metal products machine operators	6.9	9.8	2.9	4.1
7403 Metal press operators	7.4	4.2	–3.2	–6.3
7405 Other metal products machine operators	4.5	2.7	–1.8	–5.7
7407 Plastics production machine operators	13.5	10.2	–3.3	–3.2
7409 Rubber production machine operators	3.8	3.2	–0.6	–1.9
7413 Wood processing machine operators	5.4	6.1	0.7	1.4
7415 Paper and paper products machine operators	6.8	3.5	–3.3	–7.3
7419 Clay and stone processing machine operators	3.9	2.7	–1.2	–4.1
7425 Fabric production machine operators	12.3	8.6	–3.7	–4.0
7427 Textile sewing machinists	38.3	28.2	–10.1	–3.4
7431 Food processing machine operators	15.4	13.0	–2.4	–1.9
7433 Packaging machine operators	8.9	7.3	–1.6	–2.2
7499 Other machine operators	4.0	3.6	–0.4	–1.2
8101 Trades assistants	13.2	11.2	–2.0	–1.9
8103 Assemblers	29.0	31.9	2.9	1.1
8105 Hand packers	21.3	27.5	6.2	3.0
8107 Industrial spray painters	3.6	3.4	–0.2	–0.7
8109 Quality controllers	16.1	15.0	–1.1	–0.8
8199 Other trades assistants and factory hands	94.7	100.9	6.2	0.7
8301 Cleaners	11.3	10.4	–0.9	–0.9

	1987 ('000s)	1996 ('000s)	Change 1987 to 1996 ('000s)	Change 1987 to 1996 Average annual %
8907 Storemen/women	27.2	20.7	–6.5	–3.1
8919 Kitchenhands	3.6	2.6	–1.0	–3.7
8999 Other labourers and related workers	10.0	5.9	–4.1	–5.9
Other occupations	129.1	124.3	–4.8	–0.4
Total all occupations	**1132.1**	**1107.4**	**–24.7**	**–0.3**

Note: As estimates of less than 3500 are subject to high statistical error, they are listed against specific occupations only where there was a higher estimate in either 1987 or 1996. Where estimates of less than 3500 were recorded for both 1987 and 1996, they are included in the 'other occupations' category.

Source: ABS, Labour force survey, unpublished data

Table A3.3: Tables extracted from the Industry Commission publication *The changing of Australian manufacturing,* December 1996

Total exports of goods and services by sector—1994–1995-a,b

	Value ($b)	Share (%)
Services	20.4	20.2
Agriculture	6.9	8.4
Mining	14.9	18.5
Manufacturing	43.7	51.0
Total	**87.4**	**100.0**

Australia's exports of elaborately transformed manufactures (ETMs) (Australian-produce, current prices)

Category	Value 1994–95 ($m)	Share 1994–95 (%)	Trend annual growth 1984–85 to 1994–95 (%)	Contribution to growth 1984–85 to 1994–95 (%)
Non-metallic mineral manufactures	136	1.1	18.5	1.2
Iron and steel	775	6.2	10.0	5.1
Non-ferrous metal manufactures	790	6.3	13.1	5.7
Chemicals and chemical preparations	1 639	13.1	17.6	13.4
Other semi-manufactures	267	2.1	21.5	2.4
Machinery for specialised industries	1 597	12.8	17.3	13.2
Office and telecommunications equipment	1 399	11.2	28.6	13.1
Road motor vehicles and parts	915	7.3	14.9	6.7
Other machinery and transport equipment	2 974	23.8	16.2	23.9
Household equipment	554	4.4	9.7	3.6
Textile fabrics and made-up articles	336	2.7	16.3	2.8
Clothing and footwear	276	2.2	26.3	2.6
Miscellaneous manufactured articles	835	6.7	13.5	6.3
Total ETMs	**12 494**	**100.0**	**16.2**	**100.0**

Notes: a The sum of the components does not add to the total due to the exclusion of some confidential items

b Data are for total exports, and therefore include re-exports

Source: Department of Foreign Affairs and Trade, 1995; ABS, *Balance of payments and international investment position, Australia,* cat.5302.0 and unpublished ABS data

Table A3.4: Educational attainment of employed persons by industry, occupation (1-digit ASCO) and type of post-school qualification at 1996 Census

Manufacturing	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
ASCO code and occupation									
1 Managers and Administrators	19 202	4 706	5 241	21 146	3 569	53 864	6 196	38 796	98 856
2 Professionals	31 095	4 838	6 648	9 091	2 659	54 331	4 440	21 224	79 995
3 Associate Professionals	5 318	1 918	4 788	12 123	2 701	26 848	3 740	20 692	51 280
4 Tradespersons and Related Workers	3 744	2 314	4 628	128 487	3 606	142 779	14 675	84 772	242 226
5 Advanced Clerical and Service Workers	1 458	1 087	1 137	1 041	2 453	7 176	3 687	18 923	29 786
6 Intermediate Clerical, Sales and Service Workers	4 708	2 121	3 295	8 392	4 301	22 817	6 478	55 706	85 001
7 Intermediate Production and Transport Workers	4 191	1 745	2 292	22 955	3 866	35 049	12 663	131 862	179 574
8 Elementary Clerical, Sales and Service Workers	1 031	481	504	2 035	779	4 830	2 054	18 560	25 444
9 Labourers and Related Workers	3 538	1 415	1 633	13 306	2 676	22 568	10 659	120 672	153 899
0 Inadequately described	477	176	361	3 643	292	4 949	1 123	8 085	14 157
Not stated	127	58	59	581	62	887	883	3 048	4 818
Not applicable	–	–	–	–	–	–	–	–	–
Total	**74 889**	**20 859**	**30 586**	**222 800**	**26 964**	**376 098**	**66 598**	**522 340**	**965 036**

Source: ABS, 1996 Census of population and housing

Table A3.5: Employment in manufacturing, Australia, June 1996, by State/Territory

Industry sub-division	NSW No. empd ('000s)	%	Vic No. empd ('000s)	%	Qld No. empd ('000s)	%	SA No. empd ('000s)	%	WA No. empd ('000s)	%	Tas No. empd ('000s)	%	NT No. empd ('000s)	%	ACT No. empd ('000s)	%	Aust. No. empd ('000s)	%
Food/bev/tobacco	47.5	15.9	43.0	14.7	33.2	24.8	16.7	19.5	12.8	18.6	5.5	24.8	0.7	20.0	0.5	12.8	159.9	17.6
TCF	22.7	7.6	36.0	12.3	5.2	3.9	4.8	5.6	3.3	4.8	1.8	8.1	0.1	2.9	0.1	2.6	73.9	8.1
Wood and paper	19.6	6.6	17.1	5.9	10.2	7.6	5.7	6.7	4.1	6.0	3.8	17.1	0.2	5.7	0.3	7.7	61	6.7
Printing, publishing	34.4	11.5	29.5	10.1	11.0	8.2	5	5.8	6.1	8.9	1.9	8.6	0.5	14.3	1.7	43.6	90.2	9.9
Petroleum,coal/chem	32.3	10.8	34.1	11.7	9.7	7.2	5.9	6.9	6.4	9.3	0.7	3.2	0.1	2.9	0.0	0.0	89.1	9.8
Non-metallic min. prods	11.1	3.7	9.4	3.2	6.8	5.1	2.4	2.8	4.8	7.0	0.9	4.1	0.1	2.9	0.1	2.6	35.6	3.9
Metal products	51.8	17.4	36.5	12.5	25.1	18.7	11.3	13.2	15.2	22.1	3.4	15.3	1.3	37.1	0.3	7.7	145	16.0
Machinery and equipmt	63.2	21.2	71.2	24.4	23.5	17.6	29.3	34.3	10.8	15.7	3.2	14.4	0.4	11.4	0.5	12.8	202.2	22.3
Other mfg	15.2	5.1	15.2	5.2	9.1	6.8	4.5	5.3	5.3	7.7	1.0	4.5	0.2	5.7	0.4	10.3	50.9	5.6
Total	**297.9**	**100.0**	**292.1**	**100.0**	**133.9**	**100.0**	**85.5**	**100.0**	**68.7**	**100.0**	**22.2**	**100.0**	**3.5**	**100.0**	**3.9**	**100.0**	**907.7**	**100.0**

Note: TCF – textiles, clothing and footwear

Source: ABS, Manufacturing industry Census, *Manufacturing industry, Australia*, cat.8221.0, 1995–1996

Table A3.6: Educational attainment of employed persons by industry, occupation (3-digit ASCO) and type of post-school qualification at 1996 Census

Manufacturing	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
ASCO code and occupation									
100 Managers and Administrators nfd	1 512	536	391	2 796	362	5 597	909	4 764	11 270
110 Generalist Managers nfd	3	0	0	11	0	14	3	14	31
111 General Managers and Administrators	3 008	695	516	2 124	343	6 686	688	3 705	11 079
119 Miscellaneous Generalist Managers	1 156	612	513	4 798	495	7 574	1 291	9 730	18 595
120 Specialist Managers nfd	424	105	103	274	71	977	78	502	1 557
121 Resource Managers	2 683	416	631	505	247	4 482	462	2 094	7 038
122 Engineering, Distribution and Process Managers	5 726	1 338	2 134	8 422	1 304	18 924	1 783	11 845	32 552
123 Sales and Marketing Managers	2 775	665	614	1 529	556	6 139	687	4 631	11 457
129 Miscellaneous Specialist Managers	1 737	270	282	469	136	2 894	178	575	3 647
131 Farmers and Farm Managers	178	68	56	218	54	574	118	936	1 628
200 Professionals nfd	415	39	66	79	38	637	46	227	910
210 Science, Building and Engineering Professionals nfd	3	0	0	3	0	6	0	3	9
211 Natural and Physical Science Professionals	2 934	214	403	106	167	3 824	142	424	4 390
212 Building and Engineering Professionals	8 205	817	1 768	2 869	303	13 962	724	2 034	16 720
220 Business and Information Professionals nfd	51	11	17	12	0	91	8	45	144
221 Accountants, Auditors and Corporate Treasurers	4 516	437	1 264	107	129	6 453	438	1 664	8 555
222 Sales, Marketing and Advertising Professionals	2 066	451	470	1 137	347	4 471	413	2 750	7 634
223 Computing Professionals	2 994	288	543	526	220	4 571	286	1 545	6 402
229 Miscellaneous Business and Information Profs	2 315	395	889	1 611	468	5 678	571	3 267	9 516
230 Health Professionals nfd	0	0	0	0	0	0	0	0	0
231 Medical Practitioners	59	5	5	5	4	78	7	15	100
232 Nursing Professionals	154	233	22	9	41	459	69	23	551

Manufacturing	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
238 Miscellaneous Health Professionals	448	51	31	43	19	592	56	122	770
240 Education Professionals nfd	3	3	0	0	0	6	0	0	6
241 School Teachers	39	17	6	8	6	76	8	32	116
242 University and Vocational Education Teachers	32	13	3	20	7	75	11	30	116
249 Miscellaneous Education Professionals	89	40	15	54	17	215	37	153	405
250 Social, Arts and Miscellaneous Professionals nfd	5	3	0	0	0	8	0	3	11
251 Social Welfare Professionals	55	16	10	6	4	91	10	56	157
252 Miscellaneous Social Professionals	171	6	7	12	4	200	7	57	264
253 Artists and Related Professionals	6 051	1 586	991	2 220	782	11 630	1 468	8 324	21 422
254 Miscellaneous Professionals	491	216	138	263	100	1 208	138	452	1 798
300 Associate Professionals nfd	49	22	24	67	16	178	36	145	359
310 Science/Engineering and Related Assoc Profs nfd	157	32	177	262	54	682	44	214	940
311 Medical and Science Technical Officers	948	176	638	681	432	2 875	423	2 507	5 805
312 Building/Engineering Associate Professionals	780	331	2 111	4 097	512	7 831	609	2 343	10 783
320 Business and Administrative Assoc Profs nfd	0	0	3	0	0	3	0	7	10
321 Finance Associate Professionals	157	22	33	59	26	297	28	306	631
329 Miscellaneous Business/Admin Assoc Profs	2 024	712	1 147	2 297	936	7 116	1 337	8 453	16 906
330 Managing Supervisors (Sales and Service) nfd	5	3	0	5	0	13	3	10	26
331 Shop Managers	339	172	111	823	146	1 591	308	2 432	4 331
332 Hospitality and Accommodation Managers	57	54	25	403	41	580	88	577	1 245
339 Miscellaneous Mngr. Supervisors (Sales and Service)	643	262	287	2 209	241	3 642	437	2 914	6 993
340 Health and Welfare Assoc Professionals nfd	0	0	0	0	0	0	0	0	0
341 Enrolled Nurses	5	3	3	6	62	79	8	15	102
342 Welfare Associate Professionals	6	3	3	8	0	20	4	10	34
349 Miscellaneous Health and Welfare Associate Profs	41	57	130	854	102	1 184	286	222	1 692

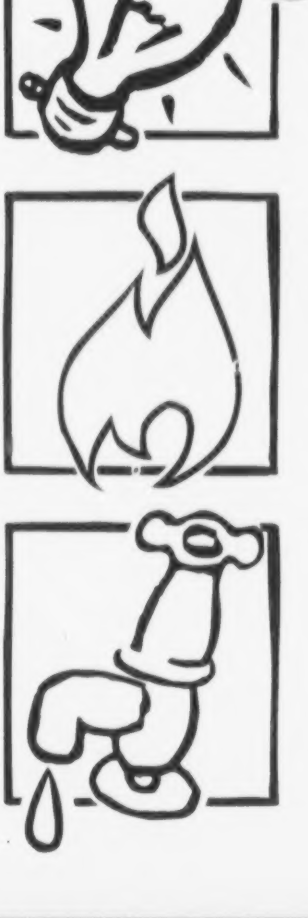
Manufacturing	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
390 Other Associate Professionals nfd	0	0	0	0	0	0	0	3	3
391 Police Officers	0	0	0	3	0	3	0	4	7
399 Miscellaneous Associate Professionals	108	70	99	346	130	753	130	532	1 415
400 Tradespersons and Related Workers nfd	100	55	203	2 294	100	2 752	242	1 132	4 126
410 Mechanical/Fabrication Engineering Trades nfd	0	0	5	152	4	161	24	48	233
411 Mechanical Engineering Tradespersons	860	497	1 608	35 971	597	39 533	2 941	10 713	53 187
412 Fabrication Engineering Tradespersons	295	172	300	24 653	657	26 077	2 772	15 553	44 402
421 Automotive Tradespersons	93	54	90	4 974	94	5 305	528	3 312	9 145
431 Electrical and Electronics Trades	353	151	1 034	11 312	266	13 116	658	3 072	16 846
440 Construction Tradespersons nfd	0	0	0	5	0	5	0	7	12
441 Structural Construction Trades	114	63	163	7 021	109	7 470	738	4 155	12 363
442 Final Finishes Construction Trades	52	35	34	954	56	1 131	172	1 254	2 557
443 Plumbers	4	6	19	969	11	1 009	69	298	1 376
451 Food Tradespersons	287	129	132	5 230	277	6 055	1 367	10 714	18 136
460 Skilled Agricultural/Horticultural Workers nfd	0	0	0	0	0	0	0	0	0
461 Skilled Agricultural Workers	6	6	5	39	15	71	25	215	311
462 Horticultural Tradespersons	12	14	18	106	23	173	32	476	681
490 Other Tradespersons and Related Workers nfd	3	5	5	45	4	62	23	116	201
491 Printing Tradespersons	504	357	296	14 271	478	15 906	1 742	10 137	27 785
492 Wood Tradespersons	432	276	236	12 779	276	13 999	1 471	10 528	25 998
493 Hairdressers	0	0	0	51	3	54	8	23	85
494 Textile, Clothing and Related Trades	274	283	282	3 035	293	4 167	1 026	7 343	12 536
498 Miscellaneous Tradespersons and Related Wkrs	350	210	197	4 626	345	5 728	836	5 676	12 240
500 Advanced Clerical and Service Workers nfd	3	0	0	4	0	7	0	6	13
511 Secretaries and Personal Assistants	637	666	618	529	1 946	4 396	2 743	11 869	19 008
590 Other Advanced Clerical and Service Wkrs nfd	0	0	0	0	0	0	0	3	3
591 Advanced Numerical Clerks	533	304	434	248	381	1 900	782	5 526	8 208
599 Miscellaneous Advanced Clerical and Service Wkrs	286	117	83	260	126	872	160	1 521	2 553

Manufacturing	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
600 Intermediate Clerical, Sales and Service Wkrs nfd	18	6	12	29	19	84	17	160	261
610 Intermediate Clerical Workers nfd	3	0	0	3	3	9	3	21	35
611 General Clerks	510	328	414	562	742	2 556	1 248	10 755	14 559
612 Keyboard Operators	280	122	210	275	391	1 278	676	4 387	6 341
613 Receptionists	130	127	214	149	581	1 201	657	4 834	6 692
614 Intermediate Numerical Clerks	637	295	759	927	583	3 201	890	7 431	11 522
615 Material Record and Despatch Clerks	915	329	659	2 027	874	4 804	1 109	11 810	17 723
619 Miscellaneous Intermediate Clerical Workers	350	105	141	359	179	1 134	298	2 327	3 759
621 Intermediate Sales and Related Workers	1 783	754	836	3 857	861	8 091	1 429	13 127	22 647
630 Intermediate Service Workers nfd	0	0	0	0	3	3	3	6	12
631 Carers and Aides	26	19	17	127	21	210	47	261	518
632 Hospitality Workers	26	13	13	25	10	87	35	315	437
639 Miscellaneous Intermediate Service Workers	30	22	19	52	35	158	67	270	495
700 Intermediate Production and Transport Wkrs nfd	154	74	92	1 022	131	1 473	634	5 196	7 303
710 Intermediate Plant Operators nfd	25	8	13	298	48	392	106	1 132	1 630
711 Mobile Plant Operators	105	56	75	1 434	327	1 997	897	11 511	14 405
712 Intermediate Stationary Plant Operators	407	168	298	4 600	744	6 217	1 400	14 154	21 771
720 Intermediate Machine Operators nfd	1 302	441	487	4 465	645	7 342	3 212	30 012	40 566
721 Intermediate Textile/Clothing/Related Mach Ops	594	315	370	1 375	426	3 080	2 032	20 693	25 805
729 Miscellaneous Intermediate Machine Operators	483	214	282	2 964	366	4 309	1 349	14 019	19 677
731 Road and Rail Transport Drivers	113	83	105	2 618	261	3 180	891	11 536	15 607
790 Other Intermediate Prod'n and T'port Wkrs nfd	0	0	0	3	0	3	0	0	3
791 Intermediate Mining and Construction Workers	37	24	31	1 033	325	1 450	256	2 173	3 879
799 Misc Intermediate Prod'n and Transport Wkrs	973	360	538	3 143	592	5 606	1 886	21 434	28 926
800 Elementary Clerical, Sales and Service Wkrs nfd	3	0	3	7	3	16	9	69	94
811 Elementary Clerks	140	53	68	94	107	462	230	1 685	2 377
820 Elementary Sales Workers nfd	3	0	0	3	0	6	0	41	47

Manufacturing	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
821 Sales Assistants	578	284	299	1 132	435	2 728	1 108	10 684	14 520
829 Miscellaneous Elementary Sales Workers	165	73	60	343	137	778	246	2 510	3 534
831 Elementary Service Workers	145	68	74	457	97	841	459	3 571	4 871
900 Labourers and Related Workers nfd	423	150	150	1 264	250	2 237	1 808	15 401	19 446
911 Cleaners	113	88	67	667	147	1 082	615	7 005	8 702
920 Factory Labourers nfd	23	9	6	26	10	74	35	447	556
921 Process Workers	1 884	694	922	7 743	1 401	12 644	5 322	63 609	81 575
922 Product Packagers	803	329	319	1 455	508	3 414	1 844	20 874	26 132
990 Other Labourers and Related Workers nfd	0	0	3	3	0	6	0	21	27
991 Mining, Construction and Related Labourers	52	30	29	627	74	812	245	3 604	4 661
992 Agricultural and Horticultural Labourers	60	33	38	316	98	545	198	2 734	3 477
993 Elementary Food Preparation and Related Wkrs	112	40	41	265	78	536	316	3 374	4 226
999 Miscellaneous Labourers and Related Workers	70	42	60	941	110	1 223	275	3 603	5 101
099 Inadequately described	477	176	361	3 643	292	4 949	1 123	8 085	14 157
Not stated	127	58	59	581	62	887	883	3 048	4 818
Not applicable	–	–	–	–	–	–	–	–	–
Total	**74 894**	**20 857**	**30 585**	**222 798**	**26 959**	**376 093**	**66 594**	**522 344**	**965 031**

Note: nfd – not further defined

Source: ABS, 1996 Census of population and housing



4 Electricity, gas and water

The three industries grouped under this heading together make up the smallest of the 17 major industry divisions used by the Australian Bureau of Statistics (ABS). In 1996–1997 average employment in this sector nationally was only 66 700 persons, representing 0.8% of total Australian employment. By November 1997 the employment level had fallen further to 64 800.[1]

Perhaps the most important feature of this sector for vocational education and training (VET) is the sharp decline in employment experienced by the sector over the last decade. In 1987 there were 126 400 employed in the industry across the nation in these activities. By 1996 employment had declined by nearly 39%—the greatest decline over the period in percentage terms of any industry.

Some of the factors that have driven this decline are corporatisation and privatisation of some areas of the industry, technological and other changes increasing labour productivity, and the outsourcing of some functions previously undertaken within the industry. This process is continuing and further reductions in employment can be anticipated. To some extent this reduction in employment has been offset by an increase in those areas to which some functions are outsourced. This increase in employment is reflected in strong growth in the property and business services sector, the subject of a separate chapter in this book.

This industry is involved in the production and distribution of electricity and gas, and in the management of water resources. They are grouped into one industry division probably because historically they have been activities conducted normally as government or quasi-government monopolies. For this reason this industry has by far the smallest number of enterprises of any of the industry sectors (excluding government administration and defence).

An industry snapshot

As noted above, this is the smallest of the 17 divisions into which the ABS divides the Australian economy. Corporatisation, increased efficiencies and outsourcing have seen the industry's employment decline by nearly 40% over the last ten years, the most marked fall in employment of any industry division.

Employment in electricity, gas and water is distributed into two sub-divisions, electricity and gas supply, which accounts for the majority of employment, (November 1997), at 41 900 persons; and water supply, sewerage and drainage services, with 22 900 employees. Only 15% of those employed in the industry are females and fewer than 4% of persons in the industry work part time.

Despite the industry's continual decline in employment over recent years, the gross product of the industry has grown consistently. Over the decade to 1994–1995 the

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[1] ABS, *Labour force, Australia*, cat.6203.0, November 1997

sector's gross product rose by around 35%, while over the same period total employment fell by nearly 42%.

Table 4.1: Employment ('000s) in electricity, gas and water supply by sub-division, by gender and type of employment, Australia, November 1997

Industry sub-division	Males	Females	Full-time	Part-time	Total
Electricity and gas supply	37.0	4.8	41.0	0.9*	41.9
Water supply, sewerage and drainage services	17.7	5.2	21.3	1.6*	22.9
Total	**54.8**	**10.0**	**62.2**	**2.5***	**64.8**

Note: *Subject to sampling variability too high for most practical uses

Source: ABS, *Labour force, Australia*, cat.6203.0, November 1997

After mining, this sector had, in 1993–1994, the highest labour costs per employee and also the second highest average earnings per employee.

The outlook for each sector needs to be considered separately. In the electricity generation and supply sector there are several key issues that will determine the future course of the industry. It is clear that demand for energy in Australia is growing strongly and this growth is likely to continue for the foreseeable future.

In 1990 Australian consumption of electricity was 133 000 gigawatt hours. It rose to 153 000 gigawatt hours in 1995 and industry forecasts suggest that over the next 12 years consumption of electrical energy will rise by a further 37% to 206 000 gigawatt hours.[2] The main component in this growth in demand is forecast by the industry to be in the commercial sector, with growth in demand from mining and manufacturing also playing a major role. Demand from the domestic sector is forecast to be lower, as a result of rising efficiency in domestic appliances and in home design.

With protocols from the Kyoto climate change conference yet to be signed at time of writing, the impact of any decisions on the level of reduction in carbon-based fuels is difficult to assess. It seems likely that over the medium term, there will be growing national and international pressures to move away from coal-generated electricity to other technologies (including photovoltaics, [solar], wind generation, gas, methane, co-generation, nuclear and hydro-electricity).

While the costs of these alternative technologies in Australia are at present generally above the costs of coal-generated electricity, it is difficult to estimate what their relative costs might be, given scale economies. Hence, it is difficult to estimate whether future energy consumption will grow indefinitely as acceptable alternatives emerge, or whether better efficiencies in design will produce more savings through greater reductions in energy consumption. What seems clear, however, is that over the medium term there will be growth in demand for electrical energy, however generated, and for its distribution via existing technologies.

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[2] Keith Orchison, executive director, Electricity Supply Association of Australia, *Sydney Morning Herald*, 11 March 1998

There are four major gas-producing regions in Australia: the Carnarvon Basin off north-western Western Australia, the Gippsland Basin off the Victorian coast, the Cooper Basin in South Australia and Queensland, and the Amadeus Basin in the Northern Territory. There are also thought to be large gas reserves associated with the major coal seams in the Sydney Basin and the Bowen Basin in Queensland.

There are few large private companies engaged in the gas sector. Companies that are involved often do so in joint partnerships. This is because gas is usually found in remote locations, it is expensive to extract and successful exploration is both expensive and uncertain. In addition, there are competitive pressures from other energy sources.

Natural gas accounts for about 18% of final energy consumption in Australia. Consumption levels are highest in Western Australia and Victoria. In recent years consumption of gas has grown most strongly in Western Australia and the Northern Territory, although nationally, overall consumption levels have only grown moderately.

Demand for natural gas is expected to rise strongly over the medium term as new resources, including imported gas from Papua New Guinea, become available. It is expected that natural gas will become an increasingly important raw material for the generation of electricity. At present about 14% of gas is used for electricity production. This is forecast to rise to 30% over the next 12 years. Overall natural gas' share of the total energy market is forecast to rise from around 18% currently to nearly 28% in 2010. At present employment in the natural gas sector is around 13 000 persons.

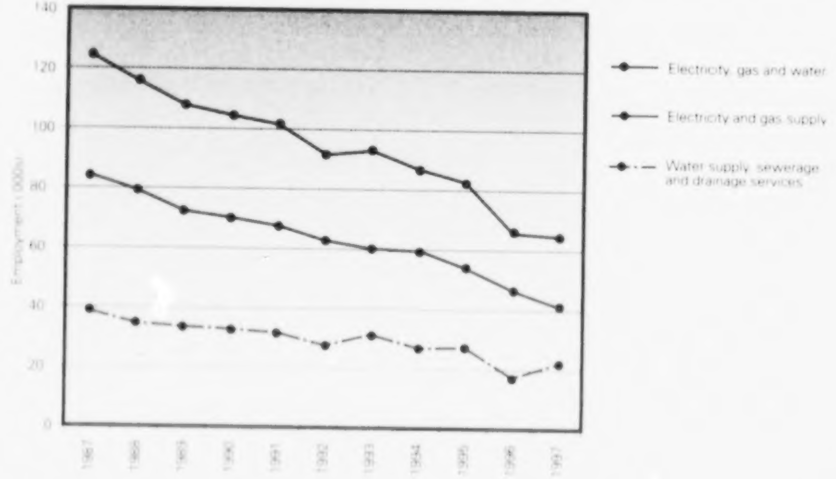
Unlike the energy producing part of the electricity, gas and water industry, water is not a commodity for which substitutes exist. Much of the focus of water distribution organisations is upon improved water conservation. As the Australian population grows it is clear that demand for water will rise. Major water resources close to Australia's major population centres have largely been developed. Thus expansion of water supplies to existing centres will become increasingly costly, as dams will be more remote from these centres. In addition, much of the supply infrastructure in place in the main Australian cities is ageing, meaning that in the foreseeable future considerable maintenance will be required. It is unlikely, however, that this will lead to a significant increase in employment in the electricity, gas and water industry as such construction work is now outsourced.

Employment trends within electricity, gas and water sub-divisions

The following chart shows the employment trends within the industry's sub-divisions over the last ten years. The decline in employment is evident in both sub-divisions, although more pronounced in the energy area.

While there is unlikely to be recovery in employment levels in these industries directly, it seems apparent that in the energy sector there will emerge demand for new and alternative technologies, giving rise to related industries. Given the importance of water in a dry continent it is also reasonable to expect growing activity in areas related to water conservation—better planning of water catchment and run-off areas, better handling of sewerage, and better water conservation practices in industry.

Chart 4.1: Employment in electricity, gas and water, by sub-division, Australia, 1987–1997 (ABS labour force survey)



Source: ABS, *Labour force, Australia*, cat.6203.0, 1987–1997

Occupational composition

Despite the small size of this industry, it fairly closely reflects the composition of the total Australian workforce, with several exceptions. The electricity, gas and water industry's main variation from the total workforce is that it employs a proportionally higher number of tradespersons and a correspondingly lower proportion of lower skilled white collar and manual workers. Table 4.2 compares the industry's occupational profile with the total workforce.

Qualifications profile

The qualifications profile of the sector closely matches the occupational profile of the whole labour force, although the industry has a significantly higher proportion of its workforce in the trades and related group.

Table 4.3 shows that the electricity, gas and water industry is substantially more dependent on the VET sector for its skills formation than the total Australian labour market. Overall 39% of the workers in the electricity, gas and water industry hold a VET-level qualification against an all-industry average of about 22%.

Electricity, gas and water has an average share of workers with university qualifications. It differs from the total workforce in that only one-third of its workforce lacks a post-school qualification, compared with almost half of the total workforce.

Table 4.2: Occupational profile, electricity, gas and water and total workforce, Australia, November 1997

Occupation group	Electricity, gas and water %	Total workforce %
Managers and administrators	7.9	7.6
Professionals	17.1	17.4
Associate professionals	12.3	10.5
Tradespersons and related	24.2	13.2
Advanced clerical and service	1.5	4.5
Intermediate clerical, sales and service	19.3	17.1
Intermediate production and transport	9.4	9.2
Elementary clerical, sales and service	2.3	10.5
Labourers and related	5.7	10.1
Total	**100.0**	**100.0**

Source: ABS, *Labour force, Australia*, cat.6203.0, November 1997

Table 4.3: Qualifications of electricity, gas and water workers, percentage distribution, Australia, May 1997

	Bachelor's degree or higher	Diploma/ associate diploma	Skilled vocational qualification	Basic vocational qualification	Without post-school qualification
Electricity, gas and water	17.1	15.1	23.9	10.4	32.9
Total industry	**17.2**	**9.0**	**12.6**	**9.4**	**49.4**

Source: ABS, *Transition from education to work*, cat.6227.0, May 1997

Tables A4.3 and A4.4 in the notes at the end of this chapter provide greater detail on the educational attainment by occupation of workers in this industry.

Occupational trends and skills shortages

Table A4.2 in the notes shows the details of where the greatest declines in employment in this industry by individual occupation have occurred over the last ten years. At the broader minor occupational group level, the main reductions in employment have occurred as shown in table 4.4.

Employers in the electricity, gas and water industry, when surveyed in the 1997 employer satisfaction survey (ESS), generally felt that there were sufficient VET graduates to meet current needs. Only about 23% of employers identified skills shortages and these were overwhelmingly in the skilled trades area, with 88% of identified shortages in this category.

The National Utilities Industry Training Advisory Body Ltd (NUITAB) reported to the Australian National Training Authority (ANTA) in 1997 on skill shortages as follows:

> *In the electricity supply sector, there is a need for developing more linework and cable-jointing skills. This is an urgent need if long-term skill shortages are to be avoided.*
>
> *In the gas sector, there is potential for a medium-term shortage of skilled labour unless entry-level traineeships with multiple outcomes are implemented. There is an immediate skills shortage*

of gas fitters and gas mains and service workers in the New South Wales gas industry and potential for short-term shortages exist in the Queensland gas industry.

In the electrical and electronic sector, there is a broad shortage of skills occurring nationally, with this trend expected to continue. There are also shortages in air-conditioning and refrigeration.

Table 4.4: Employment ('000s), in electricity, gas and water by selected minor occupational group, Australia, 1987 and 1996

Occupational group	No. employed 1987	No. employed 1996	Change 1987–1996
Building professionals and engineers	8.8	4.9	–3.9
Business professionals	2.8*	6.1	3.3
Engineering and building technicians	8.8	4.2	–4.6
Other para-professionals	5.3	2.8*	–2.5
Metal fitting and machining trades	6.0	1.9*	–4.1
Electrical and electronics trades	18.3	14.1	–4.2
Building trades	6.0	1.7*	–4.3
Numerical clerks	7.3	4.0	–3.3
Miscellaneous clerks	5.9	3.0*	–2.9
Construction labourers	6.9	2.3*	–4.6
Labourers	6.0	2.1*	–3.9
Total	**126.4**	**77.5**	**–48.9**

Note: *Subject to sampling variability too high for most practical uses

Source: ABS, *Labour force, Australia,* cat.6203.0, 1987, 1996

Hours of work and earnings

The electricity, gas and water industry is one of the most male dominated of all industries, behind only the mining industry. Almost 85% of workers in the industry are males, compared with 89% in mining and with the all-industry average of 56.6%. Less than 4% of the jobs in the industry are part time.

Table 4.5: Employment in electricity, gas and water, by sex and hours worked, Australia, November 1997

	Full-time ('000s)		Part-time ('000s)		Total ('000s)	
	No.	%	No.	%	No.	%
Males	53.8	86.4	1.0*	40.0	54.8	84.6
Females	8.5	13.6	1.5*	60.0	10.0	15.4
Total	**62.3**	**100.0**	**2.5***	**100.0**	**64.8**	**100.0**

Note: *Subject to sampling variability too high for most practical uses

Source: ABS, *Labour force, Australia,* cat.6203.0, 1997

The industry appears to have an ageing workforce. Only about 17% of the workers in the industry were born outside Australia, compared with the all-industry average of

24%. A higher proportion of the industry's workforce is aged 45 or more (28%), than the workforce as a whole (21%). Only 8.2% of the electricity, gas and water workers are aged under 25 compared with the total workforce, where 18.3% of the workers are aged under 25.

The electricity, gas and water industry also is second to the mining industry in per capita earnings. In 1993–1994 average earnings were $43 351 per annum, compared with the average across all industries of $32 755. Average hours worked in the industry are only slightly above average at 36.6 hours per week (November 1997), compared with the average for all employees of 35.6. Given the low level of part-time work in the sector, this is a low figure compared with the mining industry, which recorded an average of 43.9 hours per week.

Geographical distribution of electricity, gas and water

In general terms, employment in this sector is distributed more or less according to the distribution of the population. The following table shows the distribution as at August 1995.

Table 4.6: Employment ('000s) in electricity, gas and water by State/Territory, 1995

	NSW	Vic	Qld	SA	WA	Tas	NT	ACT
Males	22.9	18.4	12.8	6.0	8.7	1.6*	0.5*	0.6*
Females	5.4	3.8	1.9*	0.6*	1.3*	0.2*	0.1*	0.0*
Total	**28.3**	**22.1**	**14.7**	**6.6**	**10.0**	**1.8***	**0.6***	**0.6***

Note: *Subject to sampling variability too high for most practical uses

Source: ABS, *Labour force, Australia*, cat.6204.0, 1995

- The electricity, gas and water industry has experienced the sharpest decline in employment over the last decade of all industry divisions.
- The industry is strongly male dominated, has relatively few overseas-born workers, relatively few young workers and very little part-time employment.
- Over the next few years major changes in ownership structures and technology will have significant impacts on the nature and level of employment.
- The electrical power sector of this industry is at the forefront of environmental debate over greenhouse gas emissions and might see major changes in the longer term in response to international pressures.

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Training in electricity, gas and water

Despite accounting for less than 1% of the total workforce, government support for the utilities training area (a close match for this industry) is relatively high. ANTA statistics show that in 1995, 4.8% of total training activity was directed towards the sector, while in 1996 this declined marginally to 4.6% (see table A4.1 in the notes at the end of this chapter). In terms of hours of government-funded training activity per person, this amounted to 43 hours for the electricity, gas and water industry. Of those hours specifically allocated to industry-based training areas, about 55% of the total, this was the second highest after arts, entertainment, sport and recreation.

Unfortunately enrolment statistics are not available by the same breakdown as this, hence it is not possible to identify the level of enrolments specifically related to this industry sector. Many of the main occupations in this industry, especially trade and technician-level occupations, are common across several industries, including manufacturing, construction and mining. For example, there are about 6400 electrical mechanics employed in the industry, while construction has 47 000, manufacturing 10 100 and mining 4700. Therefore, identifying enrolments that will lead to employment specifically in the sector is difficult.

Employer satisfaction with VET

Employers in the industry gave a relatively high overall satisfaction score of 6.8 on a 10-point scale to VET provision in the 1997 ESS, compiled by the National Centre for Vocational Education Research (NCVER). Only four of the 17 industry sectors gave a higher rating.

Employers in the survey also tended to have relatively large numbers of recent VET graduates working for them, probably reflecting the relatively small number of large enterprises in the industry. Across the States and Territories there was, however, quite a marked variation in ratings, ranging from a low of 5 in the Australian Capital Territory to 7.5 in Queensland. No other industry produced a wider range of satisfaction scores. The survey covered 60 employers in the industry across Australia.

Employers in the electricity, gas and water industry identified the highest priorities for service improvement as:

- to improve the work skills of graduates
- to improve the work ethic of graduates

These priorities were among the highest priorities for improvement identified by employers across all industries.

VET graduates in electricity, gas and water

The technical and further education (TAFE) graduate destination survey (GDS) 1997, also compiled by NCVER, included 428 VET graduates who were working in the electricity, gas and water industry when the survey was conducted. This was about 1% of the total, about equal to the industry's share of employment. Graduates responding to the survey working in this industry gave the second highest rating, in terms of the perceived relevance of their course, among all graduates surveyed. They were behind only the construction industry graduates who gave their training the highest relevance rating.

The industry's graduates most often had obtained a trade certificate (95 persons), followed by an associate diploma (69), an Australian Qualification Framework (AQF) certificate IV (67), or a certificate (other) (63). Compared with most other industries this is a high concentration of higher-level VET qualifications.

The industry was also the highest provider of some form of support to students during their final term of study. Over 81% of students working in the industry during their final term received some form of study assistance, generally in the form of paid fees and paid time off work. The overall average across all industries was around 51%.

Average weekly earnings for graduates in the industry were well above average. For all full-time and part-time workers, average earnings for males were $698 and for females $585. For full-time males, earnings were $706 and for full-time females, $618. This level of income difference was common across all industries surveyed and in all cases males earned more than females. The greatest differentials appeared to occur in the most male-dominated industries: mining; communication services; and electricity, gas and water.

Of those graduates who were not employed on graduation, only 67 out of the 428, most found their jobs in less than three months. Only 14 of the graduates were working on a part-time basis. More than half of the graduates working in the industry had been with their employer before, during and after their course.

When questioned about their satisfaction with various aspects of their course, graduates working in this sector usually gave ratings close to the all-industry average. There were several items, however, on which they gave very low ratings compared with all respondents.

Respondents gave particularly low scores to the information received when choosing their courses and to the information provided in relation to careers and jobs in the industry. In regard to the former, only 52.7% gave a score of 7 or more on a 10-point scale, while in regard to information on careers, only 29.5% gave a score of 7 or better. This issue of provision of information on careers scored poorly across all industries, with only 41.1% of all graduates rating it 7 or better. Nevertheless, the very low rating given by electricity, gas and water industry graduates should provoke critical examination of this issue specifically in respect of this industry.

Most of the graduates working in the industry had decided to do their course for work-related reasons. In order, their reasons were:

i to get a better job or promotion – 132 persons

ii because it was a requirement of my job – 97 persons

iii to get extra skills for my job – 82 persons

About 84% of respondents giving these reasons for doing their course said that they had either fully or partly achieved their aims.

It is not possible to give accurate data on the number of apprentices employed in the sector across Australia because of its small size. The ABS groups this industry under the 'other' category in the following table. It is likely that there are about 2000 apprentices in the industry across Australia. In the latest employer training practices survey (ABS cat.6356.0), the industry is shown to be one of the highest providers of structured training, with 83% of employers in the industry providing such training.

Table 4.7: No. of apprentices ('000s) by industry of employment, Australia, 1995–1997

Industry	**1995**	**1996**	**1997**
Manufacturing	35.2	30.5	25.2
Construction	26.3	27.5	23.2
Wholesale/retail	30.5	28.3	35.3
Accommodation/cafés/restaurants	5.7	8.8	13.7
Cultural/recreation/personal services	8.0	10.6	7.8
Other	**13.5**	**20.6**	**15.9**
Total	**119.2**	**126.3**	**121.1**

Source: ABS, *Transition from education to work*, cat.6227.0, May 1997

Employer support for training

In the 1996 training expenditure survey (TES), employers in this industry were shown to be the third highest spenders on training, behind only the mining and transport industries. During the three-month survey period, electricity, gas and water industry employers spent $481 per employee on structured training, compared with the all-industry average of $185. This also represented a substantial rise from the level of expenditure in 1993, which was $383, although over that period the proportion of employers in the industry providing structured training declined from 60% to 48%.

In the 1996 survey, 10.38 hours of training were provided per employee, which also represented a slight rise over the level pertaining in 1993. Over the same period the average provision in terms of hours per employee across all industries fell from about 5.5 hours to 4.9 hours. Most training was focussed on computer training, health and safety and apprenticeship and traineeship training.

Some training issues in electricity, gas and water

- How can the quality of information on careers and jobs in the industry be improved?
- What should be done to improve the provision of information on course, subject and module content?
- With the high level of redundancies which have occurred in this industry, and their likely continuation as a result of privatisation and technological change, should more be done to promote retraining rather than displacement of redundant employees by newly trained graduates?
- What are the medium-term prospects for the emergence of new technologies and hence new skills, requiring the development of both new courses and new delivery methods? In this regard it is worth noting the motivations of the graduates working

in the industry from the GDS, in that the greatest number had work-related reasons for undertaking their TAFE course.

- What measures, if any, can the training sector take to address the marked gender imbalance in the industry?

The NUITAB has identified the following priorities for training reform.

Water sector

- development of national competency standards (NCS) at higher Australian Qualifications Framework (AQF) levels 5–6
- direction of effort toward curriculum development to underpin the existing NCS at AQF 2–4

Gas sector

- development of NCS at AQF 1–4, to be followed in 1997 by the development of underpinning curricula

Electricity supply sector

- completion of the generation competency standards
- development of NCS for the distribution and transmission areas, along with underpinning curricula and assessment frameworks

Electrical/electronic sector

- review of existing NCS
- need for research to determine the skills usage and requirement in a changing technological, economic and organisational environment
- development of relevant traineeships
- development of an assessment model
- promotion of the appropriate training model(s)

Emerging VET issues

The industry, through the NUITAB, identifies two issues that require consideration: assessor training and research. The industry sees value in researching the impact of corporatisation on internal training provision, and women's participation in training and employment in the industry.

Notes

The following table is extracted from the ANTA resource allocations for 1997 document, available at their website. It shows the planned allocations of government-funded training between the ANTA-defined 'training areas' in terms of 'annual hours curriculum' (AHC).

Table A4.1: Key national shifts in activity between 1996 revised estimates and 1997 projected activity (AHC '000s)

Industry training area	1996 revised	1997 projected	Total increase	Total increase as % of 1996 revised	% of overall increase
Category A					
Arts, Entert, Sports and Rec	11 408	11 928	520	4.6	5.5
Automotive	8 221	8 576	355	4.3	3.7
Building and Construction	18 785	19 009	224	1.2	2.4
Comm Services, Health & Ed	20 910	22 382	1 471	7.0	15.5
Finance, Banking and Insurance	3 420	3 468	48	1.4	0.5
Food Processing	2 454	2 851	396	16.1	4.2
TCF and Furnishings	5 714	5 813	100	1.7	1.0
Communications	1 883	1 963	80	4.3	0.8
Engineering and Mining	15 654	16 607	952	6.1	10.0
Primary Industry	11 874	12 217	343	2.9	3.6
Process Manufacturing	397	479	82	20.6	0.9
Sales and Personal Service	6 527	6 752	225	3.4	2.4
Tourism and Hospitality	16 707	18 151	1 444	8.6	15.2
Transport and Storage	1 686	1 851	164	9.8	1.7
Utilities	11 898	12 145	247	2.1	2.6
Category B					
Business and Clerical	42 412	43 117	705	1.7	7.4
Computing	11 969	12 641	672	5.6	7.1
Science, Technical and Other	6 727	6 870	143	2.1	1.5
Category C					
Gen Education and Training	40 046	41 212	1 166	2.9	12.3
Unallocated	622	779	157	25.2	1.6
Total	**239 316**	**248 810**	**9 494**	**4.0**	**100.0**

Note: TCF – textiles, clothing and footwear

Source: Publications, *ANTA Resource Allocations 1997*, <www.anta.gov.au>

Table A4.2: Employed persons by occupation in the electricity, gas and water supply industry, 1987 and 1996

Occupation (ASCO 4-digit)	1987	1996	Change 1987 to 1996	
				Average annual
	('000s)	('000s)	('000s)	%
2211 Electrical and electronics engineers	4.2	2.3	–1.9	–6.7
3201 Electrical and electronic engineering assoc./technicians	4.7	2.8	–1.9	–5.7
3905 Inspectors and regulatory officers	4.6	2.4	–2.2	–7.2
4103 Metal fitters and machinists	6.0	1.9	–4.1	–12.3
4301 Electrical powerline tradespersons	8.0	4.9	–3.1	–5.4
4309 Electrical mechanics	6.2	6.4	0.2	0.4
4409 Plumbers	4.5	1.7	–2.8	–10.5
5301 Accounting clerks	7.0	3.8	–3.2	–6.7
5999 Other clerks	5.7	2.6	–3.1	–8.6
7105 Truck drivers	4.1	0.7	–3.4	–18.3
7301 Power generation plant operators	5.3	2.7	–2.6	–7.4
8101 Trades assistants	4.7	1.5	–3.2	–12.2
8499 Other construction and mining labourers	3.8	1.8	–2.0	–8.2
8907 Storemen/women	3.5	0.8	–2.7	–15.5
Other occupations	54.1	41.2	–12.9	–3.1
Total all occupations	**126.4**	**77.5**	**–48.9**	**–5.4**

Note: As estimates of less than 3500 are subject to high statistical error, they are listed against specific occupations only where there was a higher estimate in either 1987 or 1996. Where estimates of less than 3500 were recorded for both 1987 and 1996, they are included in the 'other occupations' category.

Australian Standard Classification of Occupations (ASCO)

Source: ABS, Labour force survey, unpublished data

Table A4.3: Educational attainment of employed persons by industry, occupation (1-digit ASCO) and type of post-school qualification at 1996 Census

Electricity, gas and water supply ASCO code and occupation	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
1 Managers and Administrators	**1 740**	**206**	**464**	**494**	**137**	**3 041**	**140**	**563**	**3 744**
2 Professionals	4 646	461	1 113	906	262	7 388	282	1 280	8 950
3 Associate Professionals	**837**	**284**	**1 777**	**2 528**	**511**	**5 937**	**364**	**1 963**	**8 264**
4 Tradespersons and Related Workers	234	102	772	9 716	513	11 337	863	3 509	15 709
5 Advanced Clerical and Service Workers	**65**	**48**	**84**	**48**	**192**	**437**	**173**	**741**	**1 351**
6 Intermediate Clerical, Sales and Service Workers	374	171	455	808	516	2 324	524	5 019	7 867
7 Intermediate Production and Transport Workers	**84**	**37**	**118**	**1 334**	**231**	**1 804**	**398**	**3 617**	**5 819**
8 Elementary Clerical, Sales and Service Workers	59	23	52	326	76	536	108	1 239	1 883
9 Labourers and Related Workers	**25**	**16**	**49**	**603**	**79**	**772**	**216**	**2 747**	**3 735**
0 Inadequately described	47	16	62	437	42	604	87	473	1 164
Not stated	**13**	**4**	**7**	**34**	**6**	**64**	**40**	**105**	**209**
Not applicable	–	–	–	–	–	–	–	–	–
Total	**8 124**	**1 368**	**4 953**	**17 234**	**2 565**	**34 244**	**3 195**	**21 256**	**58 695**

Source: ABS, 1996 Census of population and housing

Table A4.4: Educational attainment of employed persons by industry, occupation (3-digit ASCO) and type of post-school qualification at 1996 Census

Electricity, gas and water supply	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
100 Managers and Administrators nfd	153	20	49	52	22	296	17	86	399
110 Generalist Managers nfd	0	0	0	0	0	0	0	0	0
111 General Managers and Administrators	226	23	41	53	11	354	14	52	420
119 Miscellaneous Generalist Managers	19	9	20	29	3	80	3	29	112
120 Specialist Managers nfd	28	3	9	8	0	48	3	7	58
121 Resource Managers	325	43	73	50	38	529	22	105	656
122 Engineering, Distribution and Process Managers	568	79	188	227	33	1 095	58	172	1 325
123 Sales and Marketing Managers	153	8	33	37	14	245	7	60	312
129 Miscellaneous Specialist Managers	264	20	49	35	15	383	14	34	431
131 Farmers and Farm Managers	3	3	0	3	3	12	3	18	33
200 Professionals nfd	74	6	10	6	5	101	3	18	122
210 Science, Building and Engineering Professionals nfd	0	0	0	0	0	0	0	0	0
211 Natural and Physical Science Professionals	303	13	33	18	9	376	13	43	432
212 Building and Engineering Professionals	2 377	230	453	328	46	3 434	102	253	3 789
220 Business and Information Professionals nfd	8	0	4	3	3	18	0	8	26
221 Accountants, Auditors and Corporate Treasurers	657	58	154	31	21	921	42	183	1 146
222 Sales, Marketing and Advertising Professionals	117	12	32	55	14	230	5	104	339
223 Computing Professionals	464	31	167	114	45	821	24	216	1 061
229 Miscellaneous Business and Information Profs	389	65	176	239	88	957	58	362	1 377
230 Health Professionals nfd	0	0	0	0	0	0	0	0	0
231 Medical Practitioners	0	0	0	3	0	3	0	0	3
232 Nursing Professionals	5	16	0	3	3	27	3	0	30
238 Miscellaneous Health Professionals	3	0	3	0	0	6	0	0	6
240 Education Professionals nfd	0	0	0	0	0	0	0	0	0
241 School Teachers	0	0	0	0	0	0	3	0	3
242 University and Vocational Education Teachers	0	0	0	4	0	4	0	3	7

Electricity, gas and water supply	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
249 Miscellaneous Education Professionals	16	3	5	8	3	35	3	10	48
250 Social, Arts and Miscellaneous Professionals nfd	0	0	0	0	0	0	0	0	0
251 Social Welfare Professionals	24	0	3	7	4	38	0	15	53
252 Miscellaneous Social Professionals	119	4	10	8	3	144	4	8	156
253 Artists and Related Professionals	14	6	18	30	4	72	9	22	103
254 Miscellaneous Professionals	73	14	42	52	18	199	14	34	247
300 Associate Professionals nfd	8	3	11	16	5	43	6	27	76
310 Science/Engineering and Related Assoc Profs nfd	16	11	169	135	34	365	17	73	455
311 Medical and Science Technical Officers	84	19	97	69	52	321	19	98	438
312 Building/Engineering Associate Professionals	125	100	1 048	1 654	198	3 125	147	448	3 720
320 Business and Administrative Assoc Profs nfd	0	3	3	0	0	6	0	4	10
321 Finance Associate Professionals	45	15	24	7	10	101	7	96	204
329 Miscellaneous Business/Admin Assoc Profs	417	108	330	437	165	1 457	128	994	2 579
330 Managing Supervisors (Sales & Service) nfd	0	0	0	0	0	0	0	0	0
331 Shop Managers	6	0	4	12	3	25	4	30	59
332 Hospitality & Accommodation Managers	0	0	0	0	0	0	0	7	7
339 Miscellaneous Mngr. Supervisors (Sales & Service)	119	22	69	74	24	308	17	113	438
340 Health and Welfare Assoc Professionals nfd	0	0	0	0	0	0	0	0	0
341 Enrolled Nurses	0	0	0	0	0	0	0	3	3
342 Welfare Associate Professionals	0	0	0	0	0	0	3	3	6
349 Miscellaneous Health & Welfare Associate Profs	0	0	0	0	0	0	0	0	0
390 Other Associate Professionals nfd	0	0	0	0	0	0	0	0	0
391 Police Officers	3	0	0	0	0	3	0	3	6
399 Miscellaneous Associate Professionals	11	3	22	121	16	173	17	66	256
400 Tradespersons and Related Workers nfd	12	3	49	221	10	295	10	82	387
410 Mechanical/Fabrication Engineering Trades nfd	0	0	0	0	0	0	0	0	0
411 Mechanical Engineering Tradespersons	73	17	80	1 366	17	1 553	64	295	1 912
412 Fabrication Engineering Tradespersons	6	0	3	329	5	343	16	66	425

Electricity, gas and water supply	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
421 Automotive Tradespersons	0	0	3	300	0	303	9	44	356
431 Electrical and Electronics Trades	34	13	256	5 414	230	5 967	531	1 707	8 205
440 Construction Tradespersons nfd	0	0	0	0	0	0	0	0	0
441 Structural Construction Trades	0	0	0	155	3	158	12	66	236
442 Final Finishes Construction Trades	0	0	0	39	0	39	5	21	65
443 Plumbers	12	8	22	793	30	865	82	538	1 485
451 Food Tradespersons	0	0	0	0	0	0	0	6	6
460 Skilled Agricultural/Horticultural Workers nfd	0	0	0	0	0	0	0	0	0
461 Skilled Agricultural Workers	0	0	0	0	0	0	0	5	5
462 Horticultural Tradespersons	0	3	0	30	5	38	9	47	94
490 Other Tradespersons and Related Workers nfd	0	0	0	0	0	0	0	0	0
491 Printing Tradespersons	6	0	0	12	0	18	3	7	28
492 Wood Tradespersons	0	0	0	3	0	3	0	0	3
493 Hairdressers	0	0	0	5	0	5	0	0	5
494 Textile, Clothing and Related Trades	0	0	0	0	0	0	0	0	0
498 Miscellaneous Tradespersons and Related Wkrs	70	57	358	1 049	210	1 744	120	623	2 487
500 Advanced Clerical and Service Workers nfd	3	0	0	3	0	6	0	0	6
511 Secretaries and Personal Assistants	33	33	47	19	167	299	152	522	973
590 Other Advanced Clerical and Service Wkrs nfd	0	0	0	0	0	0	0	0	0
591 Advanced Numerical Clerks	26	13	26	8	18	91	18	187	296
599 Miscellaneous Advanced Clerical and Service Wkrs	5	0	10	18	7	40	3	31	74
600 Intermediate Clerical, Sales and Service Wkrs nfd	0	0	3	0	3	6	3	7	16
610 Intermediate Clerical Workers nfd	6	0	0	0	3	9	0	5	14
611 General Clerks	71	53	113	135	176	548	158	1 810	2 516
612 Keyboard Operators	22	14	44	29	61	170	66	379	615
613 Receptionists	30	8	8	5	23	54	31	172	257
614 Intermediate Numerical Clerks	56	18	76	50	65	265	64	608	937
615 Material Record and Despatch Clerks	17	7	44	198	40	306	50	528	884

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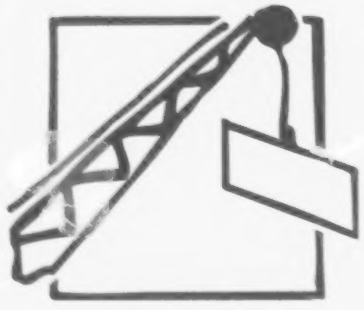
Electricity, gas and water supply	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
619 Miscellaneous Intermediate Clerical Workers	153	61	138	304	120	776	133	1 315	2 229
621 Intermediate Sales and Related Workers	43	9	26	64	21	163	7	112	282
630 Intermediate Service Workers nfd	0	0	0	3	0	3	0	0	3
631 Carers and Aides	0	0	3	10	6	19	4	28	51
632 Hospitality Workers	0	0	0	0	0	0	0	17	17
639 Miscellaneous Intermediate Service Workers	3	0	3	10	3	19	3	38	60
700 Intermediate Production and Transport Wkrs nfd	0	0	0	16	6	22	10	76	108
710 Intermediate Plant Operators nfd	3	0	5	38	3	49	17	145	211
711 Mobile Plant Operators	0	0	0	97	17	114	42	409	565
712 Intermediate Stationary Plant Operators	64	20	74	673	115	946	172	1 225	2 343
720 Intermediate Machine Operators nfd	0	4	18	160	17	199	37	319	555
721 Intermediate Textile/Clothing/Related Mach Ops	0	0	0	3	0	3	0	8	11
729 Miscellaneous Intermediate Machine Operators	0	0	0	8	3	11	4	34	49
731 Road and Rail Transport Drivers	3	5	4	155	12	179	57	874	1 110
790 Other Intermediate Prod'n & T'port Wkrs nfd	0	0	0	0	0	0	0	3	3
791 Intermediate Mining and Construction Workers	0	3	3	71	49	126	24	133	283
799 Misc Intermediate Prod'n and Transport Wkrs	7	4	13	115	9	148	35	391	574
800 Elementary Clerical, Sales and Service Wkrs nfd	0	0	0	0	0	0	0	0	0
811 Elementary Clerks	40	10	26	253	46	375	72	888	1 335
820 Elementary Sales Workers nfd	0	0	0	0	0	0	0	0	0
821 Sales Assistants	10	6	16	37	16	85	12	143	240
829 Miscellaneous Elementary Sales Workers	6	3	5	3	10	27	14	116	157
831 Elementary Service Workers	3	4	5	33	4	49	10	91	150
900 Labourers and Related Workers nfd	0	0	4	74	7	85	42	470	597
911 Cleaners	3	4	4	40	9	60	19	369	448
920 Factory Labourers nfd	0	0	0	0	0	0	0	3	3
921 Process Workers	0	3	0	33	6	42	10	156	208
922 Product Packagers	0	0	0	3	0	3	0	8	11

Electricity, gas and water supply	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
990 Other Labourers and Related Workers nfd	0	0	0	8	3	11	0	25	36
991 Mining, Construction and Related Labourers	3	3	8	184	27	225	68	833	1 126
992 Agricultural and Horticultural Labourers	0	0	0	32	5	37	10	130	177
993 Elementary Food Preparation and Related Wkrs	3	3	0	3	0	9	0	19	28
999 Miscellaneous Labourers and Related Workers	15	4	31	230	20	300	63	734	1 097
099 Inadequately described	47	16	62	437	42	604	87	473	1 164
Not stated	13	4	7	34	6	64	40	105	209
Not applicable	–	–	–	–	–	–	–	–	–
Total	**8 117**	**1 363**	**4 946**	**17 240**	**2 567**	**34 233**	**3 192**	**21 253**	**58 678**

Note: nfd – not further defined

Source: ABS, 1996 Census of population and housing



5 Construction

The building and construction industry in Australia employs nearly 600 000 persons accounting for over 7% of total employment.[1] The industry is comprised of housing construction, other non-dwelling building, and engineering construction, such as roads, and land sub-division and telecommunications rollouts.

The industry is heavily dominated by male, full-time employment, with males making up nearly 88% of the workforce and full-time work accounting for 86% of the total jobs.

Employment in the industry tends to be cyclical and there are different economic factors that operate on the sub-sectors of the industry. This means that, at times, some parts of the industry are in recession while others are growing. The non-residential and engineering construction sub-sectors have been growing over the last three years, while the housing sector has recovered from a slump from about mid-1997 onwards.

Over the last decade or so, the industry has seen two peaks in employment in the late 1980s and in the mid 1990s. Employment declined in the early 1990s and began a recovery from about 1993. Chart 5.1 shows the levels of employment in the industry as at November over the last 12 years.

Only about two-thirds of the workers in the construction industry are classified as employees, whereas about 85% of all workers are in this category. This reflects the sub-contracting nature of much work in the industry. This characteristic, combined with the often short duration and uncertain nature of employment, contributes to the industry's relatively poor performance in the provision of industry-based structured training.

The occupational structure of the industry is very different from the workforce as a whole. Whereas only about 13% of all workers are classified in the trades group, in construction half the workforce are tradespersons. This highlights both the great dependency of the industry on the vocational education and training (VET) sector in general and its specific reliance on structured apprenticeship training in particular for its supply of skills.

While immigration has contributed to the supply of skills in this industry, overseas-born workers are no more numerous in the construction industry than they are in the workforce overall, making up about 24% of both. The construction workforce is more concentrated in the middle-age groups than the total workforce. In other words, it employs both slightly fewer under-25 year olds and slightly fewer over-45 year olds than are found in the total workforce.

The qualifications profile of the industry reflects its high trades content. However, there are fewer workers with formal trade qualifications than there are workers in the trades category, indicating that there are substantial numbers of workers lacking formal qualifications in the trades area. Some of these workers could have received formal trades recognition without receiving an educational credential.

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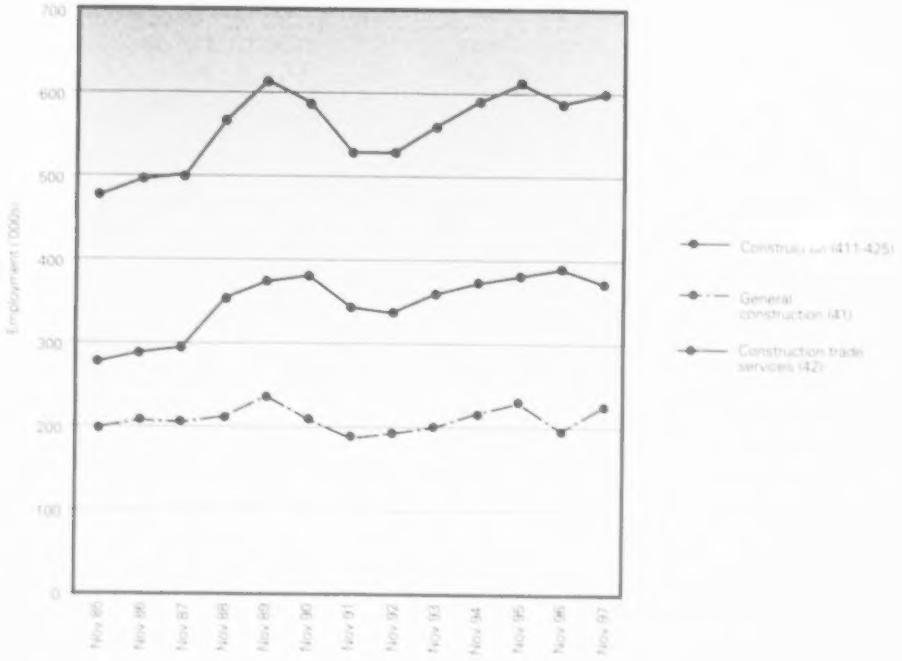
[1] Australian Bureau of Statistics (ABS), *Labour force, Australia*, cat.6203.0, November 1997.

The 1996 Australian Bureau of Statistics (ABS) training expenditure survey found that employers in construction provided much less structured training to their employees than the average employer, spending only about $100 per employee in the survey period, July to September 1996, compared with the all-industry average of $185.

Employers in the industry are generally very satisfied with the provision of VET, giving one of the highest ratings of all industries in the survey on employer satisfaction with VET for 1997 (ESS), compiled by the National Centre for Vocational Education Research (NCVER). Similarly, technical and further education (TAFE) graduates surveyed in the TAFE graduate destination survey 1997 (GDS), also compiled by NCVER, who were working in the construction industry rated most aspects of their course at a higher level than did graduates in general. Graduates working in the industry gave their TAFE course the highest rating of all graduates for its relevance to their work.

Graduates who had undertaken a course of study in the architecture and building field gained material benefits from their course. Over 40% believed that their course had led to an increase in earnings and over 20% said it had led to a promotion.

Chart 5.1: Employment in construction, Australia, 1985–1997, by sub-division (ABS labour force survey)



Source: ABS, *Labour force, Australia*, cat.6203.0, 1985–1997

An industry snapshot

The construction industry in Australia can be divided into the residential and non-residential building sectors, and engineering construction. These sectors tend to be driven by different economic factors and hence do not always follow the same economic cycles. In 1996–1997 the value of work done in these three sectors was:

❖ residential	$15 564 million
❖ non-residential building	$12 689 million
❖ engineering construction	$15 215 million

Within the residential sector the major component of activity was in the construction of new houses, which accounted for about 59.5% of all residential work, while other residential buildings accounted for 24.0% and alterations and additions worth more than $10 000 made up the remaining 16.5%. The housing sector even has a small part in the export market. In 1995–1996 pre-fabricated buildings worth over $29 million were exported from Australia.

Over the three years to 1996–1997 the value of housing construction activity fell away by over 20%. However, there has been a recovery in the housing construction sector since early 1997, assisted by low interest rates and greater competition among lenders. The latest national data on the number of dwelling approvals (for January 1998) shows a trend increase of 15.6% over the corresponding period in the previous year. Further growth is expected during 1998. To quote the Reserve Bank:

> *The reduction in home-loan interest rates—due both to declines in official interest rates and a narrowing of margins in the home-loan market as competition intensified—has driven housing affordability to its current extremely high level, and has underpinned the gradual expansion in dwelling investment. That this pick-up has not been stronger is due to the higher-than-usual excess supply of dwellings in the outer suburbs of most capital cities and in regional Australia.*[2]

In the non-residential building sector the main areas of activity in 1996–1997 were in shops (16.7%), offices (14.7%), other business premises (13.9%), and in entertainment and recreational buildings (12.6%). Other important areas in non-residential building were educational buildings (10.8%), factories (9.7%), and hotels (7.9%). The non-residential and engineering construction sectors have shown growth in activity over the last three years (to 1996–1997) of 25.5% and 13.2% respectively and growth in these sectors appears to be continuing quite strongly although there are mixed signals coming from the market. Non-residential construction activity is expected to continue to grow throughout the rest of 1998.

In engineering construction, roads, highways and land sub-division made up the major component (29.8%), with telecommunications (18.3%), heavy industry (16.3%), and electricity generation, transmission and distribution (9.9%) also prominent. In 1996–1997, 62.6% of the engineering construction activity was undertaken on behalf of the public sector. A considerable stock of unfinished work currently exists in the engineering construction sector in mining and road construction.[3]

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[2] Reserve Bank of Australia, *Bulletin*, February 1998

[3] Reserve Bank of Australia, *Bulletin*, February 1998

In November 1997 there were 597 100 persons estimated to be employed in the construction industry, accounting for just over 7% of the total Australian employed labour force. Employment in this sector is cyclical, in response to a range of factors, especially interest rates, housing affordability and large infrastructure projects.

In November 1997 the almost 600 000 persons employed in the industry were divided into the two sub-divisions of general construction and construction trade services employing, respectively, 224 200 and 373 000 persons. Employment in these sub-divisions has tended to follow similar cyclical patterns over the last decade, as is shown in chart 5.1. Employment in construction trade services has risen over the last decade by about 5.2% and in general construction by 6.4% but, as the chart shows, there has been considerable fluctuation in the industry's employment level. Employment in the industry is, however, below the high point for the last decade, which occurred in early 1990 at almost 620 000.

Table 5.1: Employment ('000s) in construction by sub-division, by gender and type of employment, Australia, November 1997

Industry sub-division	Males	Females	Full-time	Part-time	Total
General construction	*197.7*	*26.5*	*201.2*	*23.0*	*224.2*
Building construction	140.9	19.0	141.2	18.7	159.9
Non-building construction	56.8	7.5	60.0	4.3	64.3
Construction trade services	*325.4*	*47.6*	*314.2*	*58.7*	*373.0*
Site preparation services	26.8	5.2	27.7	4.3	32.0
Building structure services	48.6	4.9	46.0	7.5	53.5
Installation trade services	127.3	22.0	125.2	24.1	149.3
Building completion services	93.6	11.3	89.6	15.3	104.9
Other construction services	29.1	4.2	25.7	7.5	33.3
Total	**523.0**	**74.1**	**515.4**	**81.7**	**597.1**

Source: ABS, *Labour force, Australia*, cat.6203.0, November 1997

Employment in the construction industry is usually full time. Only 13.7% of jobs in the industry are part time, and only 12.4% of the industry's workforce are females. This makes the industry the second most male-dominated sector after mining, with only 11% of its workforce females.

Only 65% of the workers in the industry are classified as employees, compared with nearly 85% of the total workforce. Nearly 27% of the construction industry workforce is classified as 'own-account workers' and the remaining 7% is employers. This reflects the sub-contracting practices in the industry and the small business structure that dominate the industry. There are more businesses classified to the construction sector in Australia than to any other industry. In 1994–1995 there were 151 500 businesses classified in the construction sector, of which 149 700 were small businesses. Construction accounted for 16.4% of all businesses in Australia at that time. The second largest category, with 138 700 businesses, was in retailing.

The age of workers in the construction industry quite closely matches the overall workforce, with slightly fewer in the under-25 age group and also slightly fewer in the over-45 age group. The proportion of overseas-born workers in the industry also very closely matches the overall workforce at about 24%.

Occupational composition

The occupational profile of the construction industry is unique in that over half the workforce is classified as tradespersons, over 99% of whom are male. The industry has both a lower-than-average proportion of professionals and associate professionals, and of clerical/sales/service workers.

The industry also has a large number of trades occupations that are heavily concentrated in the industry, as is shown in table 5.3 below, with the industry accounting for at least 75% of employment in eight separate trades occupations.

Table 5.2: Occupational profile construction and total workforce, Australia, November 1997

Occupation group	Construction %	Total workforce %
Managers and administrators	7.6	7.6
Professionals	2.5	17.4
Associate professionals	5.5	10.5
Tradespersons and related	50.2	13.2
Advanced clerical and service	5.7	4.5
Intermediate clerical/sales/service	5.8	17.1
Intermediate production/transport	9.4	9.2
Elementary clerical/sales/service	1.1	10.5
Labourers and related	12.1	10.1
Total	**100.0**	**100.0**

Source: ABS, *Labour force, Australia*, cat.6203.0, November 1997

The main individual occupations in construction are shown in tables 5.3 and 5.4. The first provides details of trades employment in the industry and the second covers other main occupations.

Table 5.3: Major trades employment in construction, Australia, 1996

Trade occupation	No. in construction, ('000s)	% share of total occupation
Metal fitters/machinists	4.3	4.2
Structural steel/welders	7.0	10.3
Refrigeration and air-conditioning mechanics	5.2	46.0
Electrical mechanics	47.0	57.3
Carpenters and joiners	75.2	76.2
Bricklayers	27.6	97.9
Painters, decorators, signwriters	31.9	75.6
Plasterers	18.0	93.3
Plumbers	40.5	84.7
Roof slaters and tilers	5.5	98.2
Wall and floor tilers	8.5	95.5
Gardeners	11.1	24.5
Floor coverers	5.8	86.6
Glass tradespersons	3.5*	43.2

Note: *Subject to sampling variability too high for most practical uses

Source: ABS, *Labour force, Australia*, cat.6203.0, 1996

Table 5.4: Major non-trade occupations in construction, Australia, 1996

Occupation	No. in construction, ('000s)	% share of total occupation
Managing supervisors (other business)	40.0	32.6
Civil engineers	4.0	15.0
Accountants	7.9	7.4
Computing professionals	10.1	9.0
Building, architectural and surveying assoc/technicians	10.2	47.0
Office secretaries	12.4	6.1
Accounting clerks	50.1	10.4
Receptionists/info clerks	3.8	1.9
Truck drivers	12.6	6.3
Earthmoving plant operators	24.0	44.4
Trades assistants	10.8	28.7
Installation workers	5.7	55.9
Concrete workers	17.8	81.3
Structural steel and related construction labourers	4.2	53.8
Paving/surfacing labourers	5.4	40.9
Construction labourers	24.6	74.3
Other labourers	6.2	9.9

Source: ABS, *Labour force, Australia*, cat.6203.0, 1996

Qualifications profile

The qualifications profile of the construction industry reflects its occupational structure, with relatively few workers in construction possessing a university credential and the largest category of qualification being skilled vocational. This directly corresponds with the large group of tradespersons in the industry.

It is also worthy of note that a relatively small number of workers in the construction industry, 42%, lack a post-school qualification, compared with the total workforce's 49.4%. Around half of the industry's workforce, therefore, is dependent upon the VET sector for their training.

There is, however, a sizeable gap between the number of tradespersons in the industry, about 300 000, and the number of workers possessing a formal skilled vocational qualification, about 218 000. This shows that there is a substantial body of trades-level workers in the industry lacking a formal qualification. It is possible that some of these workers have received recognition for their level of skill but have not obtained a TAFE trade certificate.

1996 Census data reproduced in tables A5.5 and A5.6 in the notes at the end of this chapter show that about one third of those working as tradespersons in the industry lack formal qualifications. A similar proportion of those classified as managers and administrators also lack formal qualifications according to the 1996 Census data in those tables. As well, about 30% of those classified in the professional and associate professional occupations in construction lack formal qualifications according to the same data.

Table 5.5: Qualifications of construction workers, percentage distribution, Australia, May 1997

	Bachelor's degree or higher	**Diploma/ associate diploma**	**Skilled vocational qualification**	**Basic vocational qualification**	**Without post-school qualification**
Construction	5.0	6.2	38.5	8.1	42.0
Total industry	**17.2**	**9.0**	**12.6**	**9.4**	**49.4**

Source: ABS, *Transition from education to work*, cat.6227.0, May 1997

Occupational trends and skills shortages

As noted earlier the construction industry is characterised by slow underlying trend growth in employment upon which is superimposed cyclical swings in its employment, as shown in chart 5.1. Over the decade to 1996, employment in the industry rose by almost 100 000 or by 19%. It should be kept in mind that to some extent the occupational composition of the industry at any point in time will be influenced by at what stage of their own cycle are the component sub-sectors of the industry.

The main occupations in the industry did not, therefore, all follow the same growth pattern over the decade, with some exceeding the overall industry growth rate and others growing more slowly, while several actually declined in absolute terms. Tables 5.6 and 5.7 show the main occupational trends over the last decade according to these different growth trends.

Table 5.6: Construction industry occupations showing above-trend growth, Australia, 1987–1996

Occupation	Employment 1996 ('000s)	% growth 1987–1996
Managing supervisors	40.0	74
Refrigeration and air-con. mechanics	5.2	27
Electrical mechanics	47.0	50
Plasterers	18.0	29
Roof slaters and tilers	5.5	31
Gardeners	11.1	85
Floor coverers	5.8	45
Glass tradespersons	3.5*	600
Accounting clerks	50.1	35
Truck drivers	12.6	47
Earthmoving plant operators	24.0	36
Trades assistants	10.8	24
Labourers	6.2	100

Note: *Subject to sampling variability too high for most practical uses

Source: ABS, *Labour force, Australia*, cat.6203.0, 1987–1996

Shortages of skills tend to occur in the construction industry as a result of its cyclical nature and through geographical variations in activity, especially in the engineering construction sector. The industry is characterised by frequent movement of workers into and out of the industry, depending upon the level of labour demand.

In the 1997 ESS, most employers (67.3%) in the construction industry replying to the survey did not believe, at that time (July 1997), there were shortages of VET graduates to meet their needs. Of the 29% who did identify skill shortages, predictably 81% said there were shortages of tradespersons. No further details as to the type of trades in shortage were gathered.

Preparation for the Olympic Games has seen construction activity at a high level in Sydney. Over the period 1997–2001 it is expected that there will be about $10 billion worth of building and construction work in the Sydney region, with about $3 billion of this directly related to the games. This activity will peak in the 1998–1999 year. Possible skill shortages have been targetted by specific initiatives including Australian National Training Authority (ANTA)-funded skill centres.

Table 5.7: Construction industry occupations showing below-trend or negative growth, Australia, 1987–1996

Occupation	Employment 1996 ('000s)	% growth 1987–1996
Civil engineers	4.0	–18
Building, architectural and surveying ass/technicians	10.2	6
Metal fitters and machinists	4.3	0
Structural steel/welding tradespersons	7.0	15
Carpenters and joiners	75.2	4
Bricklayers	27.6	8
Painters/decorators/ signwriters	31.9	7
Plumbers	40.5	13
Wall and floor tilers	8.5	18
Office secretaries	12.4	19
Receptionists and info clerks	3.8	0
Concrete workers	17.8	17
Structural steel labourers	4.2	–34
Paving/surfacing labourers	5.4	–16
Other construction labourers	24.6	9

Source: ABS, *Labour force, Australia*, cat 6203.0, 1987–1996

The national industry training advisory board (ITAB), Construction Training Australia, reported to ANTA in 1997 that:

> *. . . across the States and Territories, painters were shown to be in the shortest supply (in six), with bricklayers, roof tilers and wall and floor tilers next (in five), and concrete workers, excavations and plant moving operators, plasterers (in four).*

A recent report by the Australian Chamber of Commerce and Industry (ACCI), *Northern Australia skills shortages report*,[1] found widespread shortages of construction industry skills across northern Australia.

The Department of Employment, Education, Training and Youth Affairs (DEETYA) skilled vacancy survey showed, for the year to February 1998, a very strong rise across Australia in demand for skilled workers in the building and construction sector. Over that period, vacancies for construction trades workers rose by 97% nationally, as against an across-the-board rise of 11.4% for all vacancies. On an indexed basis the construction trades vacancies index stood at 111.4 in February 1998, the highest level over the last two years and well above the level of just 42.1 two years previously.

Over the same period, however, vacancies for building and engineering professionals declined by 16% and vacancies for building and engineering associates/ technicians declined by 6.2%.

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[1] Australian Chamber of Commerce and Industry, *Northern Australia skills shortages report*, <www.acci.asn.au/>

Hours of work and earnings

The following table shows the pattern of employment in the industry by hours worked by sex. It highlights the strong male dominance of the industry and the low level of part-time employment in the industry.

Table 5.8: Construction employment, by sex and hours worked, Australia, November 1997

	Full-time ('000s)		Part-time ('000s)		Total ('000s)	
	No.	%	No.	%	No.	%
Males	489.4	95.0	33.6	41.1	523.0	87.6
Females	26.0	5.0	48.1	58.9	74.1	12.4
Total	**515.4**	**100.0**	**81.7**	**100.0**	**597.1**	**100.0**

Source: ABS *Labour force, Australia*, cat.6203.0, November 1997

In May 1996 adult weekly full-time earnings for non-managerial workers in construction averaged $732, well above the all-industry average earnings of $683. Male earnings in this category were $745 and female earnings were $605. Female earnings were, in fact, at the all-industry average at that time.

Remarkably, managerial earnings in the industry were below the non-managerial level, although this figure seems influenced by a very low level of earnings for females in this category, possibly influenced by the ownership structure prevalent in the industry of numerous small enterprises. Labour costs in the industry in 1993–1994 at $35 357 per employee were about $1600 above average.

Geographical distribution of construction employment

Most employment in the construction industry is found in New South Wales, Victoria and Queensland although, as is shown in table 5.10, employment is not distributed in the same proportion across the States and Territories as total employment.

Queensland, New South Wales, Western Australia and the Northern Territory have an above-average share of jobs in this sector, while Victoria, South Australia, Tasmania and the Australian Capital Territory have a lower-than-average share. This pattern reflects the broader demographic factors, including population growth and migration movements, that stimulate demand in the construction sector.

Table 5.9: Employment ('000s) in construction by State/Territory, 1995

	NSW	Vic	Qld	SA	WA	Tas	NT	ACT
Males	180.8	112.8	107.2	30.3	57.7	9.7	6.0	8.7
Females	28.7	14.2	18.4	5.6	10.7	1.9*	0.5*	1.8*
Total	**209.5**	**127.0**	**125.6**	**35.9**	**68.5**	**11.6**	**6.6**	**10.6**

Note: *Subject to sampling variability too high for most practical uses

Source: ABS, *Labour force, Australia*, cat.6204.0, 1995

Table 5.10: **Share of employment in construction by State, by share of total jobs, 1995**

State	Construction % share	% employed in all industries
NSW	35.2	33.1
Vic	21.3	24.7
Qld	21.1	18.3
SA	6.0	8.0
WA	11.5	10.1
Tas	1.9	2.4
NT	1.1	1.0
ACT	1.8	2.0
Total	**100.0**	**100.0**

Source: ABS, *Labour force, Australia*, cat.6204.0, 1995

- Employment in construction makes up 7% of total jobs in Australia.
- The construction industry is male dominated and provides relatively few part-time jobs.
- Employment is characterised by a high proportion of 'own-account' workers, with only about two-thirds of workers in the industry classified as employees.
- The occupational composition of the workforce is exceptional in that half of all workers in the industry are classified as tradespersons.
- While most employers in the 1997 ESS did not believe there were skill shortages in this industry, a recent ACCI survey found widespread shortages across northern Australia.
- The DEETYA skilled vacancy survey reveals a rapid rise in demand for skilled construction workers over the last year.

Training in construction

Government-funded training for building and construction largely falls under the ANTA-defined training area of the same name. In 1995, 8.1% of government training activity occurred in this area. In using this figure it should be kept in mind that only about 57% of total government-funded training activity was designated to a specific industry-related area. The remaining 43% was in broader categories, such as computing, and business and clerical, which have relevance across all industry sectors, including construction. In 1996 this allocation was expected to decline slightly and in 1997 the level was expected to be about 7.6% (see table A5.1 in the notes at the end of this chapter). For 1995 this meant that there were about 38 hours of government-funded training provided per person employed in the construction industry, well above the all-sector average of 27 hours.

Enrolment statistics in VET identify those undertaking studies in construction areas in two ways—by *discipline group*, built environment, and by *field of study*, architecture and building. For 1996 total annual hours of student enrolments in the field of study, architecture and building, amounted to over 20 million hours, or 7.3% of total hours.[5] Total annual hours of enrolments in the discipline group, built environment, amounted to about 17.6 million hours.

The main enrolment category in the field of study, architecture and building, in 1996 was for trade-level courses, making up one-third of all hours for this field of study. The other major areas of enrolment were in operatives: initial 16.7%, para-professional 9.7%, and trades (other) 9.3%. Over 89% of the enrolments were by male students.

Module pass rates in the built environment discipline group are well above average for all courses at 72.4%, compared with overall pass rates of 60.5%.

Employer satisfaction with VET

At the 1997 ESS 175 employers in the construction industry responded to the survey. They gave the equal highest score on overall satisfaction with VET, scoring it a 7 out of 10. Two other industries, government administration and education, also scored VET 7 out of 10. Overall satisfaction with the TAFE part of VET was slightly lower on 6.9.

Employers in construction identified the highest priority for improvement in VET to be the ability and experience of teachers in the VET system. Almost 20% identified this as the highest priority, the highest of all industry sectors on this criterion.

The highest level of satisfaction in the construction industry with VET was found in Queensland, scoring 7.3, and the lowest was in the Northern Territory with 6.5.

VET graduates in construction

In the 1997 TAFE GDS there were 3172 graduates surveyed who were working in construction at the time of the survey. This represented 7.4% of all graduates surveyed, down from the 8.2% working in construction in the 1995 GDS, making construction the fifth largest destination industry for 1996 graduates.

As with employers in the construction industry, graduates were generally very satisfied with their TAFE course in construction. They scored by far the highest rating for overall relevance of their course to their industry, with 68.9% giving a 'highly relevant' rating. The next highest rating went to health and community services with 61.5%.

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[5] NCVER, *Australian vocational education and training statistics 1996: In detail*

Only 10.2% of the graduates working in construction rated their course of little or no relevance, again the lowest non-relevant rating of all industries.

In the survey, 3906 graduates, or 6.4% of those surveyed, had completed a course in the architecture and building field of study. The largest category of surveyed graduates with a qualification in the architecture and building field was of those with a trade certificate who made up nearly half the sample. Other sizeable groups had completed an associate diploma 13%, an advanced certificate 11.1%, or a certificate (other) 10%.

Graduates with a qualification in architecture or building were more likely to be working full time than was the average graduate. Only 47% of all the graduates surveyed were working full time, whereas 73% of those with an architecture or building qualification were full-timers. In fact, 15% of all graduates were unemployed but only 9.5% of those with a qualification in the architecture or building field were unemployed.

Most of the graduates from this field of study had undertaken their course for vocational reasons, with only 10.8% having a non-vocational motivation. Most did their course either to get a job or because it was a requirement of their present job. Only 13.5% of graduates from this field of study had had to geographically relocate in order to undertake their course.

Of the graduates who undertook their course in order to get a job, 78% said that they had fully achieved their aim, while a further 10% had partly achieved it. The other major motivation for undertaking the course, because it was a requirement of the job, saw 82.5% achieving their objective fully, and a further 13.5% saying that they had partly achieved their aim.

When asked to rate various aspects of their TAFE course, the graduates who were working in the construction industry tended to give above-average scores. Scoring was done on a 1 to 10 basis, with 10 being the best. The following analysis looks at the proportion of graduates giving a rating of 7 or more out of 10 for the various aspects of their course.

TAFE graduates in the construction industry gave *significantly above-average* ratings for the following:

- quality of equipment
- availability of equipment for practice
- usefulness of the course for job prospects
- qualifications being well regarded by employers

The only area where graduates gave a *significantly below-average* score was:

- course content reflecting industry practice

All graduates gave a particularly low rating to the provision of information on careers and jobs. However, the graduates working in construction gave an average score of 41.3%. It is striking how consistently graduates across all industry sectors expressed dissatisfaction with the provision of careers information. *It is clearly the area of VET provision most inadequately addressed as far as graduates are concerned.*

Employment outcomes

In material terms graduates from the architecture and building field of study courses appeared to benefit more than most graduates. Of those employed at the time of the survey, 41.9% said they had received an increase in their earnings as a result of completing their course, the highest proportion among all the fields of study. A further 24.1% had either found a job or changed jobs as a result of the course and 21.6% had received a promotion.

Graduates working in the construction industry were more likely than the average graduate to have already been working when they completed their course. In fact, 75.3% were working compared with 66.1% of all graduates, and the job they were in was much more likely to have been their first full-time job than the average graduate.

Graduates working full time in construction were earning on average $504 per week, with males earning $505 and females $478. This gap between male and female earnings was less than in many other industries.

Apprenticeships in construction

Table A5.3 in the notes at the end of this chapter shows apprenticeships in building and electrical trades as a percentage of all apprenticeships. It shows considerable stability over the last 12 years.

The total number of apprentices in the industry and related fields has fluctuated between about 40 000 and 53 000, in part reflecting the prevailing economic conditions of the industry. There does not appear to be much evidence of a long-term reduction in the use of apprenticeships in this industry, although table 5.11 below shows a reduction over the last three years.

Table A5.4 in the notes at the end of this chapter shows the number of apprenticeships in the building, electrical and horticulture trades over the last 12 years. It shows that there has been considerable consistency in the overall number of apprenticeships in building and related areas over that period.

The following table is more specific in that it shows the number of apprenticeships specifically designated as being in the construction sector and, as such, the numbers are lower than in table A5.4. Table 5.11 shows that construction has been, over the last three years, the third major industry employing apprentices. Construction's share of the total number of apprenticeships over the three-year period has fallen from 22.9% in 1995 to 19.2% in 1997.

Table 5.11: No. of apprentices ('000s) by industry of employment, Australia, 1995–1997

Industry	**1995**	**1996**	**1997**
Manufacturing	35.2	30.5	25.2
Construction	**26.3**	**27.5**	**23.2**
Wholesale/retail	30.5	28.3	35.3
Accommodation/cafés/restaurants	5.7	8.8	13.7
Cultural/recreation/personal services	8.0	10.6	7.8
Other	13.5	20.6	15.9
Total	**119.2**	**126.3**	**121.1**

Source: ABS, *Transition from education to work*, cat.6227.0, May 1997

Employer support for training

In the 1997 GDS a moderately high 64.5% of graduates working in the construction industry who had been working in the industry in their final semester of study received some form of financial support from their employer, usually paid time off work or payment of fees. Across all industries around 51% of graduates had some form of financial support from their employer.

The ABS employer training expenditure survey of 1996 showed that construction industry employers spent considerably less than the average employer on structured training. They spent just over $100 per employee in the three-month survey period, well below the all-industry average of $185 and well down on their level of expenditure in the same 1993 survey, which saw per employee spending at $135.

Only 11.6% of employers in the industry provided structured training, again below the all-industry average of 18% and well below the 19% in the 1993 survey. Employers in the non-building part of construction spent far more than those in the building sector—$267 per employee against $67.

The ABS employer training practices survey of February 1997 obtained information on training provision by industry over the previous 12 months, rather than the three-month period covered in the training expenditure survey. The training practices survey found a higher level of employer-provided structured training across the board. Construction was, however, still below average in that only 29% of employers provided structured training against the all-industry average of 35%. The construction industry's provision of unstructured training was also below the all-industry average.

Some training issues in construction

- What steps can be taken to increase the industry's well-below-average expenditure on structured training? The substantial drop in expenditure on structured training by employers in the industry between 1993 and 1996 shows that at least in this industry, the Training Guarantee had some significant impact.
- While overall employer satisfaction with VET provision is high, what should be done to improve the level of satisfaction with the skills and experience of teachers?
- What better processes can be instituted to monitor skills shortages in the industry?

- Are regional skill shortages able to be addressed by the VET sector or should national training provision aim to maintain a long-term average level of output, without trying to anticipate short-term fluctuations either regionally or more broadly?
- Should there be steps taken to reduce the number of tradespersons in the industry lacking formal educational qualifications?
- Why does the industry continue to be so strongly male dominated and should government training policies aim to reduce this level of segregation?

Construction Training Australia, the national ITAB, has raised the following five industry training issues which are relevant to the industry or which require further research and evaluation:

- the requirements of training package delivery
- the need for quality staff with access to well-designed professional development programs
- the need for a major promotion and publicity campaign to help highlight initiatives such as New Apprenticeships
- the need for research on the effects of technological change on skills development

Notes

The following table is extracted from the ANTA resource allocations for 1997 document, available at their website. It shows the planned allocations of government-funded training between the ANTA-defined 'training areas' in terms of 'annual hours curriculum' (AHC).

Table A5.1: Key national shifts in activity between 1996 revised estimates and 1997 projected activity (AHC '000s)

Industry training area	1996 revised	1997 projected	Total increase	Total increase as % of 1996 revised	% of overall increase
Category A					
Arts, Entert, Sports & Rec	11 408	11 928	520	4.6	5.5
Automotive	8 221	8 576	355	4.3	3.7
Building and Construction	18 785	19 009	224	1.2	2.4
Comm Services, Health & Ed	20 910	22 382	1 471	7.0	15.5
Finance, Banking & Insurance	3 420	3 468	48	1.4	0.5
Food Processing	2 454	2 851	396	16.1	4.2
TCF and Furnishings	5 714	5 813	100	1.7	1.0
Communications	1 883	1 963	80	4.3	0.8
Engineering and Mining	15 654	16 607	952	6.1	10.0
Primary Industry	11 874	12 217	343	2.9	3.6
Process Manufacturing	397	479	82	20.6	0.9
Sales and Personal Service	6 527	6 752	225	3.4	2.4
Tourism and Hospitality	16 707	18 151	1 444	8.6	15.2
Transport and Storage	1 686	1 851	164	9.8	1.7
Utilities	11 898	12 145	247	2.1	2.6
Category B					
Business and Clerical	42 412	43 117	705	1.7	7.4
Computing	11 969	12 641	672	5.6	7.1
Science, Technical and Other	6 727	6 870	143	2.1	1.5
Category C					
Gen Education and Training	40 046	41 212	1 166	2.9	12.3
Unallocated	622	779	157	25.2	1.6
Total	**239 316**	**248 810**	**9 494**	**4.0**	**100.0**

Source: Publications, *ANTA Resource Allocations 1997*, <www.anta.gov.au>

Table A5.2: Employed persons by occupation in the construction industry, 1987 and 1996

Occupation (ASCO 4-digit)	1987	1996	Change 1987 to 1996	
				Average annual
	('000s)	('000s)	('000s)	%
1601 Managing supervisors (other business)	23.0	40.0	17.0	6.5
2209 Civil engineers	4.9	4.0	–0.9	–2.3
3207 Building architectural and surveying assoc/ technicians	9.6	10.2	0.6	0.7
4103 Metal fitters and machinists	4.3	4.3	0.0	0.0
4205 Structural steel boilermaking/welding tradespersons	6.1	7.0	0.9	1.6
4307 Refrigeration and air-conditioning mechanics	4.1	5.2	1.1	2.8
4309 Electrical mechanics	31.3	47.0	15.7	4.8
4401 Carpenters and joiners	72.6	75.2	2.6	0.4
4403 Bricklayers	25.6	27.6	2.0	0.9
4405 Painters decorators and signwriters	29.9	31.9	2.0	0.7
4407 Plasterers	14.0	18.0	4.0	2.9
4409 Plumbers	35.8	40.5	4.7	1.4
4411 Roof slaters and tilers	4.2	5.5	1.3	3.1
4413 Wall and floor tilers	7.2	8.5	1.3	1.9
4805 Gardeners	6.0	11.1	5.1	7.3
4919 Floor coverers	4.0	5.8	1.8	4.3
4921 Glass tradespersons	0.5	3.5	3.0	24.9
5101 Office secretaries and stenographers	10.4	12.4	2.0	2.0
5301 Accounting clerks	37.0	50.1	13.1	3.5
5601 Receptionists and information clerks	3.8	3.8	0.0	0.0
7105 Truck drivers	8.6	12.6	4.0	4.5
7201 Excavating and earthmoving plant operators	17.6	24.0	6.4	3.6
8101 Trades assistants	8.7	10.8	2.1	2.5
8401 Installation workers	12.1	5.7	–6.4	–8.2
8403 Concrete workers	15.2	17.8	2.6	1.8
8405 Structural steel and related construction labourers	6.4	4.2	–2.2	–4.7
8409 Paving and surfacing labourers	6.4	5.4	–1.0	–1.9
8499 Other construction and mining labourers	22.5	24.6	2.1	1.0
8999 Other labourers and related workers	3.1	6.2	3.1	8.2
Other occupations	68.8	76.7	7.9	1.3
Total all occupations	**503.7**	**599.6**	**95.9**	**2.0**

Note: As estimates of less than 3500 are subject to high statistical error, they are listed against specific occupations only where there was a higher estimate in either 1987 or 1996. Where estimates of less than 3500 were recorded for both 1987 and 1996, they are included in the 'other occupations' category.

Australian Standard Classification of Occupations (ASCO)

Source: ABS, Labour force survey, unpublished data

Table A5.3: Apprentices in training by occupation as percentage of total apprenticeships building and electrical trades

	Percentage of apprentices in training as percentage of total apprentices												
	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Electrical	**14.2**	**13.8**	**12.9**	**14.2**	**14.4**	**14.5**	**14.8**	**14.6**	**14.5**	**13.4**	**12.9**	**13.5**	**13.6**
Building	17.0	17.5	18.2	18.9	20.0	20.3	20.3	20.1	19.4	20.7	21.5	20.8	19.7

Source: NCVER, unpublished data

Table A5.4: Apprenticeships in building and related areas

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Electrical	18 316	18 035	17 923	20 917	21 859	23 342	22 382	20 921	17 821	16 533	15 867	16 748	16 703
Building	21 869	22 801	25 222	27 742	30 312	32 727	30 618	28 769	23 799	25 518	26 439	25 930	24 288
Horticulture	na	na	na	3 243	3 375	3 527	3 477	3 398	3 357	3 511	3 408	3 395	2 948

Note: na—not applicable

Source: NCVER, unpublished data

Table A5.5: Educational attainment of employed persons by industry, occupation (1-digit ASCO) and type of post-school qualification at 1996 Census

Construction	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualifications	Basic vocational qualifications	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
ASCO code and occupation									
1 Managers and Administrators	4 303	1 763	2 727	22 138	1 460	32 391	4 301	14 437	51 129
2 Professionals	5 338	786	1 202	1 415	323	9 064	695	2 473	12 232
3 Associate Professionals	3 058	1 155	2 787	9 523	1 228	17 751	2 078	10 241	30 070
4 Tradespersons and Related Workers	1 764	1 413	3 178	142 649	2 715	151 719	14 116	71 613	237 448
5 Advanced Clerical and Service Workers	899	1 066	635	1 017	1 721	5 338	3 041	17 048	25 427
6 Intermediate Clerical, Sales and Service Workers	824	623	699	1 889	1 112	5 147	1 738	13 589	20 474
7 Intermediate Production and Transport Workers	280	243	296	8 838	1 585	11 242	3 114	31 077	45 433
8 Elementary Clerical, Sales and Service Workers	171	105	120	817	173	1 386	401	3 164	4 951
9 Labourers and Related Workers	614	408	507	8 326	819	10 674	3 254	36 566	50 494
0 Inadequately described	105	58	100	1 591	98	1 952	380	1 990	4 322
Not stated	33	31	23	478	39	604	357	1 144	2 105
Not applicable	–	–	–	–	–	–	–	–	–
Total	**17 389**	**7 651**	**12 274**	**198 681**	**11 273**	**247 268**	**33 475**	**203 342**	**484 085**

Source: ABS, 1996 Census of population and housing

Table A5.6: Educational attainment of employed persons by industry, occupation (3-digit ASCO) and type of post-school qualification at 1996 Census

Construction	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualifications	Basic vocational qualifications	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
ASCO code and occupation									
100 Managers and Administrators not further defined nfd	452	246	210	1 933	197	3 038	577	2 891	6 506
110 Generalist Managers nfd	14	3	0	23	4	44	5	19	68
111 General Managers and Administrators	465	139	143	802	70	1 619	170	747	2 536
119 Miscellaneous Generalist Managers	1 929	985	1 884	17 760	919	23 477	3 076	8 247	34 800
120 Specialist Managers nfd	47	13	14	50	7	131	14	59	204
121 Resource Managers	474	108	131	284	83	1080	154	784	2 018
122 Engineering, Distribution and Process Managers	534	121	188	716	70	1629	130	716	2 475
123 Sales and Marketing Managers	199	86	76	314	53	728	106	535	1 369
129 Miscellaneous Specialist Managers	175	44	59	143	36	457	38	159	654
131 Farmers and Farm Managers	14	19	21	113	21	188	31	280	499
200 Professionals nfd	44	7	15	32	7	105	9	45	159
210 Science, Building and Engineering Professionals nfd	0	3	0	0	0	3	0	0	3
211 Natural and Physical Science Professionals	70	10	13	14	5	112	3	29	144
212 Building and Engineering Professionals	3 730	436	593	639	91	5 489	304	802	6 595
220 Business and Information Professionals nfd	6	4	0	4	3	17	0	11	28
221 Accountants, Auditors and Corporate Treasurers	679	95	284	39	42	1 139	130	397	1 666
222 Sales, Marketing and Advertising Professionals	97	24	28	176	19	344	40	304	688
223 Computing Professionals	198	32	51	60	21	362	20	136	518
229 Miscellaneous Business and Information Profs	243	64	115	210	68	700	62	374	1 136
230 Health Professionals nfd	0	0	0	0	0	0	0	0	0
231 Medical Practitioners	3	3	0	0	0	6	3	0	9
232 Nursing Professionals	17	25	0	3	5	50	12	12	74
238 Miscellaneous Health Professionals	10	3	3	4	0	20	0	0	20

Construction	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualifications	Basic vocational qualifications	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
240 Education Professionals nfd	0	0	0	0	0	0	0	0	0
241 School Teachers	20	7	3	6	0	36	3	12	51
242 University and Vocational Education Teachers	3	0	0	11	3	17	4	3	24
249 Miscellaneous Education Professionals	13	3	0	14	6	36	5	14	55
250 Social, Arts and Miscellaneous Professionals nfd	3	0	0	0	0	3	0	0	3
251 Social Welfare Professionals	10	5	3	9	3	30	3	24	57
252 Miscellaneous Social Professionals	53	4	5	6	0	68	3	16	87
253 Artists and Related Professionals	115	41	56	119	23	354	62	208	624
254 Miscellaneous Professionals	25	22	30	67	30	174	35	83	292
300 Associate Professionals nfd	21	14	20	71	14	140	22	107	269
310 Science/Engineering and Related Assoc Profs nfd	8	6	51	37	8	110	5	35	150
311 Medical and Science Technical Officers	21	0	28	30	14	93	19	128	240
312 Building/Engineering Associate Professionals	1 562	548	1 876	6 289	540	10 815	954	3 385	15 154
320 Business and Administrative Assoc Profs nfd	3	0	0	3	3	9	0	12	21
321 Finance Associate Professionals	34	6	15	9	9	73	14	93	180
329 Miscellaneous Business/Admin Assoc Profs	1 251	466	662	1 908	522	4 809	799	4 951	10 559
330 Managing Supervisors (Sales & Service) nfd	0	0	0	5	0	5	3	3	11
331 Shop Managers	31	20	17	208	29	305	52	424	781
332 Hospitality & Accommodation Managers	6	3	3	32	3	47	7	45	99
339 Miscellaneous Mngr. Supervisors (Sales & Service)	92	55	83	758	51	1 039	134	794	1 967
340 Health and Welfare Assoc Professionals nfd	0	0	0	0	0	0	0	0	0
341 Enrolled Nurses	0	0	0	3	4	7	0	3	10
342 Welfare Associate Professionals	3	0	0	3	0	6	0	8	14
349 Miscellaneous Health & Welfare Associate Profs	0	3	0	3	0	6	3	6	15
390 Other Associate Professionals nfd	0	0	0	0	0	0	0	0	0

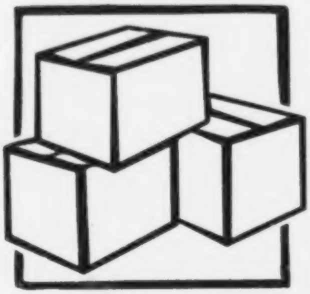
Construction	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualifications	Basic vocational qualifications	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
391 Police Officers	0	0	0	4	0	4	0	0	4
399 Miscellaneous Associate Professionals	30	31	29	163	33	286	67	248	601
400 Tradespersons and Related Workers nfd	22	23	27	816	28	916	107	533	1 556
410 Mechanical/Fabrication Engineering Trades nfd	0	0	3	16	3	22	0	3	25
411 Mechanical Engineering Tradespersons	36	27	72	3 329	47	3 511	241	874	4 626
412 Fabrication Engineering Tradespersons	25	21	36	3 923	79	4 084	461	1 787	6 332
421 Automotive Tradespersons	7	7	8	964	18	1 004	106	492	1 602
431 Electrical and Electronics Trades	331	259	810	33 710	503	35 613	1 904	8 207	45 724
440 Construction Tradespersons nfd	5	7	7	182	5	206	33	212	451
441 Structural Construction Trades	555	486	1 255	53 365	1 005	56 666	6 509	32 897	96 072
442 Final Finishes Construction Trades	314	203	182	14 536	279	15 514	2 347	13 108	30 969
443 Plumbers	95	136	366	27 089	356	28 042	1 467	6 491	36 000
451 Food Tradespersons	0	3	0	12	5	20	9	41	70
460 Skilled Agricultural/Horticultural Workers nfd	0	0	0	0	0	0	0	0	0
461 Skilled Agricultural Workers	0	0	0	0	0	0	3	14	17
462 Horticultural Tradespersons	320	206	352	2 037	324	3 239	515	4 701	8 455
490 Other Tradespersons and Related Workers nfd	0	0	0	8	0	8	3	7	18
491 Printing Tradespersons	0	3	0	27	4	34	3	36	73
492 Wood Tradespersons	9	9	16	638	6	678	67	393	1138
493 Hairdressers	0	0	0	29	3	32	4	4	40
494 Textile, Clothing and Related Trades	0	0	0	8	3	11	3	29	43
498 Miscellaneous Tradespersons and Related Wkrs	45	26	45	1 959	50	2 125	337	1 784	4 246
500 Advanced Clerical and Service Workers nfd	0	0	0	0	0	0	0	0	0
511 Secretaries and Personal Assistants	552	721	410	681	1 314	3 678	2 262	11 086	17 026
590 Other Advanced Clerical and Service Wkrs nfd	0	0	0	0	0	0	0	0	0

Construction	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualifications	Basic vocational qualifications	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
591 Advanced Numerical Clerks	344	343	224	326	397	1 634	775	5 919	8 328
599 Miscellaneous Advanced Clerical and Service Wkrs	3	0	3	10	10	26	4	43	73
600 Intermediate Clerical, Sales and Service Wkrs nfd	0	0	0	10	0	10	3	31	44
610 Intermediate Clerical Workers nfd	0	0	0	0	0	0	0	15	15
611 General Clerks	266	270	174	418	439	1 567	799	6 302	8 668
612 Keyboard Operators	47	31	37	50	82	247	122	804	1 173
613 Receptionists	49	46	77	64	188	424	235	1 542	2 201
614 Intermediate Numerical Clerks	239	128	221	372	186	1 146	283	2 188	3 617
615 Material Record and Despatch Clerks	48	42	64	282	73	509	90	1 019	1 618
619 Miscellaneous Intermediate Clerical Workers	35	17	32	73	34	191	35	338	564
621 Intermediate Sales and Related Workers	125	68	74	540	87	894	119	1 095	2 108
630 Intermediate Service Workers nfd	0	0	0	0	0	0	0	0	0
631 Carers and Aides	9	11	10	51	10	91	27	125	243
632 Hospitality Workers	0	5	5	8	4	22	7	58	87
639 Miscellaneous Intermediate Service Workers	4	4	4	20	6	38	18	71	127
700 Intermediate Production and Transport Wkrs nfd	4	5	8	233	60	310	103	824	1 237
710 Intermediate Plant Operators nfd	3	5	9	193	38	248	132	1 107	1 487
711 Mobile Plant Operators	75	73	91	2 649	332	3 220	989	11 945	16 154
712 Intermediate Stationary Plant Operators	30	15	28	1 103	199	1 375	229	1 864	3 468
720 Intermediate Machine Operators nfd	19	15	12	430	49	525	211	2 203	2 939
721 Intermediate Textile/Clothing/Related Mach Ops	0	0	0	13	0	13	9	43	65
729 Miscellaneous Intermediate Machine Operators	11	14	10	396	25	456	130	1 231	1 817
731 Road and Rail Transport Drivers	28	25	33	1 156	96	1 338	404	5 677	7 419
790 Other Intermediate Prod'n & T'port Wkrs nfd	0	0	0	0	0	0	0	4	4
791 Intermediate Mining and Construction Workers	82	71	70	2 376	753	3 352	792	5 069	9 213
799 Misc Intermediate Prod'n and Transport Wkrs	32	20	35	289	32	408	115	1 110	1 633

Construction	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualifications	Basic vocational qualifications	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
800 Elementary Clerical, Sales and Service Wkrs nfd	0	0	3	0	0	3	3	6	12
811 Elementary Clerks	17	20	24	54	37	152	57	444	653
820 Elementary Sales Workers nfd	0	0	0	0	0	0	3	0	3
821 Sales Assistants	83	42	43	356	65	589	143	1 302	2 034
829 Miscellaneous Elementary Sales Workers	24	13	15	41	25	118	48	405	571
831 Elementary Service Workers	46	28	37	366	46	523	149	1 006	1 678
900 Labourers and Related Workers nfd	42	14	27	439	57	579	288	2 902	3 769
911 Cleaners	30	34	10	234	34	342	156	1 557	2 055
920 Factory Labourers nfd	0	0	0	0	0	0	0	3	3
921 Process Workers	31	12	24	260	29	356	133	1 579	2 068
922 Product Packagers	0	0	0	7	3	10	11	101	122
990 Other Labourers and Related Workers nfd	0	0	0	24	3	27	0	68	95
991 Mining, Construction and Related Labourers	352	227	331	5 958	553	7 421	2 299	26 869	36 589
992 Agricultural and Horticultural Labourers	21	13	16	136	31	217	56	747	1 020
993 Elementary Food Preparation and Related Wkrs	3	3	0	3	0	9	5	63	77
999 Miscellaneous Labourers and Related Workers	132	106	98	1 265	112	1 713	304	2 677	4 694
099 Inadequately described	105	58	100	1 591	98	1 952	380	1 990	4 322
Not stated	30	31	23	478	39	601	357	1 144	2 102
Not applicable	–	–	–	–	–	–	–	–	–
Total	**17 389**	**7 650**	**12 270**	**198 680**	**11 280**	**24 7269**	**33 482**	**203 338**	**484 089**

Note: nfd – not further defined

Source: ABS, 1996 Census of population and housing



6 Wholesale

THE WHOLESALE INDUSTRY makes up almost 5.8% of total employment in Australia, making it one of the middle-size industries.[1] The industry functions as an intermediary between the producers, manufacturers or importers of goods and the retailers who deal directly with the end consumers of those products. The major sub-divisions of the industry are:

- basic material wholesaling, largely covering the products of the agricultural, mining and timber industries
- machinery and motor vehicle wholesaling, covering agricultural and construction equipment, business equipment such as computers, and motor vehicles
- personal and household goods wholesaling, including food, drink, clothing, household appliances, books, pharmaceuticals, jewellery and photographic equipment

Over the last decade, employment in the wholesale industry has fluctuated with economic conditions. Employment in the industry peaked in February 1991 at 521 200 and has not since recovered to this level. The sub-divisions which make up the industry have not all followed the same trend over the last decade. Chart 6.1 shows the level of employment in the industry and its sub-divisions as at November since 1987.

Since 1987 total employment in the industry has risen by just over 12%. Most of this growth occurred in the machinery and motor vehicles sub-division, which grew by 20% since 1987. Employment in this sub-division is about back to its peak, which it reached in 1990, of around 195 000 persons. Its employment trends appear to track with business investment.

Employment in the basic materials wholesaling sub-division is only about 1% above the level of ten years ago. Over the decade its employment peaked at the same time as the machinery and motor vehicles sub-division in May 1990, then declined during 1992. Despite some recovery in its employment level up to 1994, its employment has now returned to about the lowest level in the last decade.

Personal and household goods wholesaling has grown by over 12% since 1987, rising rapidly to peaks in 1990 and then again in 1993 and 1995. Since that peak in mid-1995, its level of employment has fallen by around 20 000 positions. Levels of household consumption are clearly an important determinant of employment trends in this sub-division.

Employment in the wholesale industry has several distinguishing characteristics. It is marked by quite a high proportion of males and by relatively few part-time jobs, unlike the retailing industry with which it is often grouped. Its occupational structure is unusual in that it has a preponderance of intermediate-level jobs in clerical, sales, service, production and transport areas, together with relatively few professional and associate professional-level jobs.

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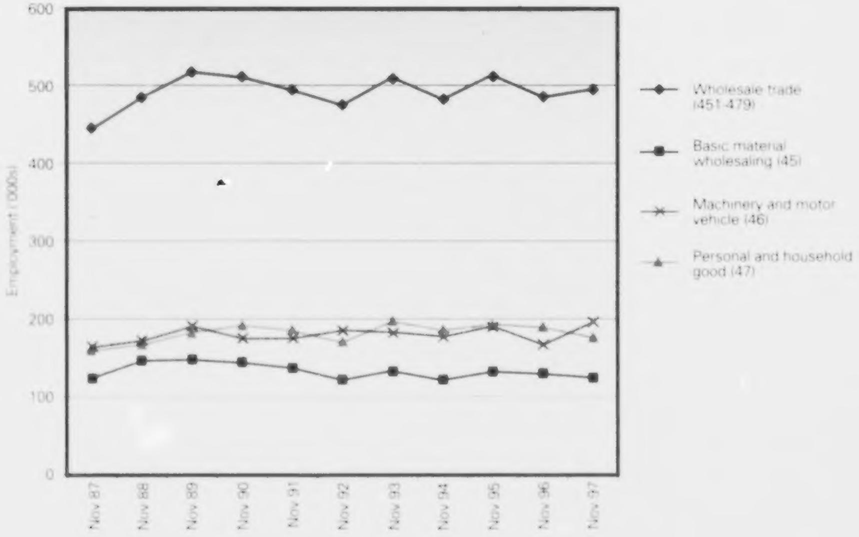
[1] Australian Bureau of Statistics (ABS), *Labour force, Australia*, cat.6203.0, November 1997

Chart 6.1: **Employment in wholesale industry, Australia, November 1987–November 1997, (ABS labour force survey)**



Source: ABS, *Labour force, Australia*, cat.6203.0, 1997

Reflecting this middle-level occupational composition, the qualifications profile of the industry has a higher proportion of skilled and basic vocational qualifications than the workforce generally, but a much lower proportion of workers with university or higher-level vocational, education and training (VET) qualifications. This pattern might be changing at present as the technical and further education (TAFE) graduate destination survey for 1997 (GDS), compiled by the National Centre for Vocational Education Research (NCVER), shows greater-than-average numbers of TAFE graduates with Australian Qualification Framework (AQF) level III and IV qualifications entering the industry.

Employers in the industry generally provide less structured training than average across all industries and their provision of structured training per employee declined by more than 20% between 1993 and 1996.

An industry snapshot

The wholesale industry is one of the middle-sized sectors in the Australian labour market, comprising about 5.8% of total employment. Over the last decade the industry has shown only moderate growth, growing from an average level of employment in 1987 of about 434 000 to about 492 000 in November 1997. This rise of about 13% compares with growth in total employment over that period of about 20% and the strong growth that occurred in the closely related retailing sector of about 29%.

In 1994–1995 the Australian Bureau of Statistics (ABS) estimated that the wholesale industry accounted for just under 10% of total Australian gross product at nearly $41 billion, rising to almost $44 billion in 1995–1996, 10.4% of gross product. Over the year to December 1997, wholesale trade sales are estimated to have risen by 5.6%.

Table 6.1: Employment ('000s) in wholesale trade by sub-division, by gender and type of employment, Australia, November 1997

Industry sub-division and group	Males	Females	Full-time	Part-time	Total
Basic material wholesaling	*94.8*	*27.1*	*108.5*	*13.3*	*121.9*
Farm produce wholesaling	25.6	7.3	27.0	5.9	32.9
Mineral, metal and chemical wholesaling	26.2	6.1	30.1	2.1*	32.3
Builders supplies wholesaling	43.0	13.7	51.4	5.3	56.7
Machinery and motor vehicle wholesaling	*144.2*	*50.9*	*175.7*	*19.3*	*194.9*
Machinery and equipment wholesaling	117.6	41.7	144.1	15.1	159.2
Motor vehicle wholesaling	26.6	9.2	31.6	4.2	35.7
Personal and household good wholesaling	*101.4*	*73.8*	*138.7*	*36.5*	*175.3*
Food, drink and tobacco wholesaling	46.4	24.6	55.8	15.2	71.0
Textile, clothing and footwear wholesaling	7.2	7.8	12.8	2.2*	15.0
Household good wholesaling	11.0	8.9	17.4	2.5*	19.9
Other wholesaling	36.8	32.5	52.7	16.6	69.4
Total	**340.3**	**151.8**	**423.0**	**69.1**	**492.1**

Note: *Subject to sampling variability too high for most practical uses

Source: ABS, *Labour force, Australia*, cat.6203.0, November 1997

In 1994–1995 there were 53 900 business enterprises in the wholesale industry, 50 000 of them being small businesses, representing about 5.8% of all businesses in Australia. Labour costs and average earnings per employee in the wholesale industry were, using 1993–1994 data, above the average across all industries. In 1996 average weekly full-time non-managerial earnings in wholesaling at $619 were below the all-industry average of $683.

The distinctions between retail and wholesale are not always clear cut. The major Australian retailers, including Coles-Myer and Woolworths, perform both retail and wholesale functions. There is increasing integration between the two functions, with growing numbers of retailers acquiring wholesaling businesses while increasing numbers of wholesalers are dealing directly with the public, especially through the use of the internet.

Employment in the wholesale industry is divided into three broad sub-divisions, which are highlighted in table 6.1.

Employment levels in the industry have fluctuated over the last decade, but have risen overall by around 12%. Further growth in all three sub-divisions is expected over the next few years.

The wholesale industry is relatively male dominated, with nearly 70% of the workforce males. As with most male-dominated industries there is a below-average proportion of part-time employment in the industry, with only about 14% of the industry's jobs being part time. The industry's workforce is comprised of 24.4% of persons born overseas, marginally above the proportion for all industries, which is 24.0%.

Most jobs in the wholesale industry are found in New South Wales and Victoria, which have a disproportionately high share of jobs in this industry. While New South Wales and Victoria only make up 57.6% of all jobs in Australia, together they account for 63.5% of jobs in the wholesale industry, as is shown in table 6.3. Apart from Tasmania, all the other States and Territories have a below-average share of jobs in this sector.

Table 6.2: Employment ('000s) in wholesaling by State/Territory, 1995

	NSW	Vic	Qld	SA	WA	Tas	NT	ACT
Males	125.0	86.1	58.2	26.1	28.9	9.3	2.5*	4.2
Females	67.7	40.3	25.9	8.9	13.9	3.3*	1.1*	1.3*
Total	**192.8**	**126.4**	**84.1**	**35.0**	**42.8**	**12.6**	**3.6**	**5.4**

Note: *Subject to sampling variability too high for most practical uses

Source: ABS, *Labour force, Australia*, cat.6204.0, 1995

The age distribution of workers in the industry closely matches the pattern across all industries, with only a slightly lower proportion of teenagers and a higher proportion of those aged 25–34 found in wholesaling.

Table 6.3: Share of employment in wholesaling by State, by share of total jobs, 1995

State	Share of jobs in wholesale industry %	% employed in all industries
NSW	38.4	33.0
Vic	25.1	24.6
Qld	16.7	18.0
SA	7.0	7.9
WA	8.5	9.9
Tas	2.5	2.3
NT	0.7	0.9
ACT	1.1	1.9
Total	**100.0**	**100.0**

Source: ABS, *Labour force, Australia*, cat.6204.0, 1995

Occupational composition

The following table shows the broad occupational groups within the wholesale industry, and compares their percentage share with the total workforce.

Table 6.4: Occupational profile, wholesale industry and total workforce, Australia, November 1997

Occupation group	Wholesale	Total workforce
	%	%
Managers and administrators	10.2	7.6
Professionals	8.9	17.4
Associate professionals	7.9	10.5
Tradespersons and related	11.6	13.2
Advanced clerical and service	5.4	4.5
Intermediate clerical/sales/service	24.3	17.1
Intermediate production/transport	14.9	9.2
Elementary clerical/sales/service	10.0	10.5
Labourers and related	6.8	10.1
Total	**100.0**	**100.0**

Source: ABS, *Labour force, Australia*, cat.6203.0, November 1997

The occupational composition of the wholesale industry varies from the all-industry average in several important ways. While the industry has an above- average share of managers and administrators, it has a low share of professional, associate professional and skilled trades-level workers. Conversely, it has a relatively high proportion of the intermediate-level occupations in clerical, sales, service, production and transport. Together, these occupations account for almost 40% of the total jobs in the industry.

Qualifications profile

The qualifications profile of the industry, shown in table 6.5, to some extent reflects the occupational structure described above. In line with low proportions of professional and associate professional jobs, there are relatively few university graduates or graduates with higher-level VET qualifications in wholesaling than in the workforce generally. Tables from the 1996 Census showing the level of qualification attained by workers in the industry at the detailed 3-digit occupational level and at the 1-digit level are provided in tables A6.3 and A6.4 in the notes at the end of this chapter.

Table 6.5: Qualifications of wholesale industry workers, percentage distribution, Australia, May 1997

	Bachelor's degree or higher	Diploma/ associate diploma	Skilled vocational	Basic vocational	Without post-school qualification
Wholesale	10.1	8.4	14.4	11.6	55.1
Total industry	**17.2**	**9.0**	**12.6**	**9.4**	**49.4**

Source: ABS, *Transition from education to work*, cat.6227.0, May 1997

Interestingly, despite the relatively low level of jobs in the industry designated as skilled trades, there is an above-average proportion of workers in the industry with trades-level qualifications. This might indicate that there is a career path out of some trades into the wholesaling of products related to their area of skill. For example, former building tradespersons might be likely to move into the wholesaling of building materials.

The other notable feature of the qualifications profile of the wholesale industry is the quite high proportion of workers, 55%, without formal post-school qualifications, compared with 49% for the total workforce. This, combined with the supposition about the movement into the industry of skilled tradespersons, suggests that there is potential for further formal training in industry-specific skills.

Occupational trends and skills shortages

As noted earlier in this chapter, the industry has shown below-average employment growth over the last decade or so. The following analysis of occupational changes covers the period 1987 to 1996, and is based on the older occupational code (Australian Standard Classification of Occupations [ASCO], first edition) used up until then. A later version now in use makes this comparison over time more difficult.

Over the period 1987 to 1996, employment in wholesaling rose by about 13% or by nearly 60 000 positions. All major occupational groups rose in number except for clerks, whose numbers fell marginally. At the minor occupational level there were a number of occupations that rose well above the average rate for the industry while several areas declined.

The following table summarises the main changes at the minor occupational level.

Table 6.6: Employment ('000s), growth by minor occupational group, wholesale industry, Australia, 1987–1996, occupations with above-average growth

Occupation	Employment 1987	Employment 1996	% change
Managing supervisors	12.9	15.6	21
Business professionals	13.9	21.0	51
Engineering and building ass/technicians	3.6	4.6	28
Misc. para-professionals	4.2	6.0	43
Metal fitting and machining trades	7.1	10.1	42
Other metal tradespersons	4.2	5.7	36
Electrical/electronic tradespersons	13.1	16.2	24
Food tradespersons	1.2*	3.7	208
Numerical clerks	33.1	40.5	22
Receptionists etc.	8.0	11.2	40
Sales representatives	50.7	64.9	28
Sales assistants	32.4	45.2	40
Mobile plant operators	3.5*	7.3	109
Trades assistants/factory hands	17.6	25.3	44

Note: *Subject to sampling variability too high for most practical uses

Source: ABS, *Labour force, Australia*, cat.6203.0, 1987–1996

Table 6.6 shows a large growth in the numbers of some trades categories within the industry, with a combined growth of about 10 000 positions. The combined areas of sales representatives and sales assistants rose by a substantial 32%.

Some significant growth occurred in some individual occupations within the categories detailed above. Among the business professionals category, the occupations accounting for most of the growth in percentage terms were finance managers and computing professionals.

Hours of work and earnings

Wholesaling is quite unlike retailing in terms of hours worked and its gender composition. Males dominate employment in wholesaling, making up nearly 70% of the total wholesaling workforce, and almost 86% of the jobs in the industry are full time, compared with only 56% of retailing jobs. Consequently, average weekly hours worked in wholesaling are about 37.9 compared with only 31.2 hours in retailing.

Table 6.7: Wholesale industry employment, by sex and hours worked, Australia, November 1997

	Full-time ('000s)		Part-time ('000s)		Total ('000s)	
	No.	%	No.	%	No.	%
Males	318.0	75.2	22.3	32.3	340.3	69.2
Females	105.0	24.8	46.8	67.7	151.8	30.8
Total	**423.0**	**100.0**	**69.1**	**100.0**	**492.1**	**100.0**

Source: ABS, *Labour force, Australia*, cat.6203.0, 1997

As noted earlier, average adult full-time weekly non-managerial earnings are somewhat below the all-industry average at $619. The males in this category averaged $649, while females averaged $547. Managerial full-time average weekly earnings for males were $885 compared with $641 for females.

- Wholesaling is a moderately-sized sector employing about 5.8% of the Australian workforce, of just under 500 000 persons.
- Unlike retailing, it is an industry marked by predominantly male, full-time employment.
- Over the last decade it has shown only modest growth and has shown marked swings in employment levels between its three main sub-divisions.
- The industry is somewhat geographically concentrated in New South Wales and, to a lesser extent, Victoria and Tasmania.
- Occupationally the industry has a preponderance of the intermediate-level occupations in clerical, sales, service, production and transport areas.

Training in wholesale

There is a fundamental dilemma with existing training statistics when an analysis of training activity by industry is attempted. Students enrolled in TAFE colleges and with other VET providers are not necessarily associated with an employer and hence with a specific industry. The Australian National Training Authority (ANTA) attempts to relate each course to the industry most likely to employ graduates of that course, but this is obviously a difficult task.

The training areas used by ANTA in the analysis of allocation of training resources do not specifically identify wholesaling as a separate sector. The wholesale industry is grouped under the same industry training advisory board (ITAB) that covers retailing and also personal services. It does not, however, cover motor vehicle wholesaling, which comes under the automotive ITAB. While there is clearly a strong commercial linkage between retailing and wholesaling, and also probably significant labour mobility between the two, the occupational and other labour market characteristics of the two are quite different.

ANTA's analysis of government-funded VET activity suggests that wholesaling, together with retailing and personal services, receives a small proportion of government funds. (See table A6.1 in the notes at the end of this chapter.)

In 1997 only about 2.7% of government-funded training activity was directed at sales and personal service jobs, which largely covers the wholesaling industry. It needs to be kept in mind that less than 60% of total training hours were allocated to specific industry training areas—over 40% of government VET-funded activity was targeted at general education, business and clerical and related general areas of training. Many of the graduates from these broader areas would have acquired skills relevant to wholesaling including, especially, the intermediate-level occupations which predominate in this industry.

Nevertheless, wholesaling is not a major destination industry for TAFE graduates and, in fact, between 1995 and 1997 became less so. In 1995, 3.7% of TAFE graduates surveyed in the GDS were employed in wholesaling. By 1997 the proportion finding jobs in wholesaling had declined to just 2.9%. This might simply reflect the poorer job prospects that existed in the wholesale industry in early 1997 compared with two years earlier. It is still the case, however, that an industry with a skills profile marked by a high proportion of middle-level skills absorbed only 2.9% of the TAFE system's output, when the industry itself accounts for double that proportion of the workforce.

Employer satisfaction with VET

In the survey on employer satisfaction with VET for 1997 (ESS), compiled by NCVER, the 164 wholesaling employers surveyed gave VET a satisfaction score of 6.7 on a 10-point scale, ahead of only three other industry sectors. Nevertheless, the satisfaction scores for all industries were only spread across a narrow range, between 5.7 and 7 out of 10. Wholesaling employers gave TAFE providers a slightly lower rating of 6.6, a little ahead of retailing employers and three other industries.

In the 1997 ESS, employers were asked to identify those areas of training provision most in need of improvement. Employers in wholesaling were among several industries to identify the need for a better work ethic in graduates as the highest priority for improvement, with 20% giving this as their first priority. Most industries, in fact, saw this as an important area for improvement.

Two other areas also figured prominently for improvement in the opinion of employers in wholesaling, the relevance of course content and graduates' work skills. In the case of the latter, graduates' work skills, only two other industries had a higher proportion of employers recognising this as a high priority area for improvement than wholesaling, one of them being personal and other services. It appears that wholesaling employers, more than most, do not see their graduates as being well prepared for the workplace.

Wholesale employers' overall satisfaction ratings for VET did not vary markedly between the States and Territories, with South Australia rating best at 7.1 and Queensland worst on 5.8. All the other scores were between 6.4 and 6.8.

- Wholesaling is not a major destination industry for TAFE graduates and its significance declined between 1995 and 1997, possibly because of a reduction in the overall number of jobs in the industry over that period.
- Because of the way training statistics are classified, it is very difficult to identify how much government-funded training provision is of direct benefit to the wholesale industry.
- Given the industry's high proportion of middle-level jobs, it is surprising that it is not a more significant destination for graduates.
- Wholesale industry employers did not give VET provision a very high satisfaction rating, identifying a need to improve graduates' work ethic and job skills, together with a need to improve course content.

VET graduates in wholesale

As noted previously, the 1997 GDS found that only 2.9% of TAFE graduates, 1271 persons, had found employment in the wholesaling industry, down from 3.7% in 1995. This compared with 13.9% working in retailing in 1997.

In the 1997 survey almost 20% of TAFE graduates were employed in the sales and personal services occupational group, although it is clear that few of these, compared with retailing, would have found employment in the wholesale sector.

Of all those graduates working in sales and personal service jobs as a result of undertaking their TAFE course:

- over 33% had either found a job or changed their job
- about 23% had received an increase in earnings as a result of having undertaken their TAFE course, while
- 15% had received a promotion

Of those graduates surveyed who were working in the wholesale industry, by far the largest proportion, over 58%, were located in New South Wales. Most of the other States appear to be under-represented in the sample apart from South Australia.

Graduates working in wholesaling included in the survey mainly had the following TAFE qualifications:

- certificate (other) – 23.9%
- AQF certificate III – 14.5%
- trade certificate – 11.2%
- advanced certificate – 10.4%
- AQF certificate IV – 9.5%

Compared with retailing and most other industries, there were proportionally more graduates in wholesaling with AQF level III and IV qualifications—24% in all, compared with only 14.3% in retailing.

Of those graduates working in wholesaling, almost 1000 had been employed during the final semester of their course. A slightly above-average proportion of these, 55.3%, received some form of financial support from their employer during their final semester, usually payment of fees or paid time off work. Overall 51.1% of graduates across all industries received financial support from their employer.

Of those graduates who were working in wholesaling when surveyed, again a slightly above-average 68.2% already had a job when they graduated. Only 8.3% took longer than three months to find their job, about the same as for graduates across all industries.

Graduates working in wholesaling generally did not rate their course as highly relevant to their work. The following table compares the proportions of graduates in the 1995 and 1997 GDS working in selected industries, giving a 'highly relevant' rating to their TAFE course.

Not only does it show graduates working in wholesaling giving a relatively low relevance score to their TAFE course, but it also shows a reduction of four percentage points in the relevance rating between the 1995 survey and the 1997 survey.

The overall 'highly relevant' scores given by graduates in the 1995 and 1997 surveys were 50% and 49.3% respectively. While there was a slight decline overall in the 'highly relevant' score between the two surveys, the decline in wholesaling is quite high.

Table 6.8: Proportion of TAFE graduates by industry rating their course 'highly relevant to their job', 1995 and 1997 GDS

Industry	Proportion rating 'highly relevant'	
	1995 survey	1997 survey
Manufacturing	52%	51%
Wholesale	**44%**	**40%**
Retail trade	39%	38%
Accommodation, cafés and restaurants	51%	45%
Property and business services	55%	51%
Construction	70%	69%
Health and community services	62%	62%

Source: NCVER, 1997 TAFE graduate destination survey; ABS, *1995 Graduate outcomes, technical and further education, Australia*

On most aspects the graduates working in wholesaling gave a rating below the all-industry response. Some aspects that were particularly below average were:

- presentation of course material
- quality of equipment for practising skills
- availability of equipment for practising skills
- information about jobs and careers
- usefulness of the course for job prospects
- qualification being well regarded by employers
- balance between instruction and practice

On only one item, the convenience of class times and venues, did respondents give an above-average rating.

Graduates were also asked to give the main reason for undertaking their course and to say whether they had achieved their aim. In the case of graduates working in wholesaling, table 6.9 shows the main reasons for undertaking their course and the percentage who believed that they had either fully or partly achieved their goal.

Table 6.9: Reasons for doing course by success rate, wholesale industry

Reason	No.	Fully achieved aim (%)	Partly achieved aim (%)
To get a job	282	62.8	20.9
Try for different career	141	44.0	20.6
To get better job/promotion	299	46.2	23.7
Requirement of job	121	88.4	7.4
Get extra skills for job	238	73.1	20.2
Interest/personal development	161	77.6	18.6

Source: NCVER, 1997 TAFE graduation destination survey, unpublished data

Average weekly earnings for graduates in wholesaling ranked around the middle level for all graduates at $530. Male earnings for graduates were $575 and for females $469, while male full-time earnings were $597 and female full-time earnings were $533.

This was neither the smallest nor greatest gap between male and female full-time earnings. Retailing showed only a small gap of $4 in favour of males, and mining had the largest gap of $311. Those completing an AQF diploma received the highest income, followed by those completing an AQF certificate IV.

Employer support for training

The ABS conducted a survey in the September quarter of 1996 looking at employer expenditure on structured training.[2] In that survey employers in wholesaling were found to have spent $69.7 million on structured training in the surveyed period. This converted to expenditure of about $173 per employee in the industry, about 6.5% below the all-industry average of $185.

Only about 20% of all employers in the wholesale industry provided structured training to their employees, a little above the all-industry average of just under 18%. Each employee in the wholesale industry received on average 3.49 hours of training, almost 30% less than the all-industry average of 4.91 hours.

A similar survey was undertaken in 1993 at a time when the training guarantee legislation was operative. In that earlier survey wholesale industry employers were above the all-industry average in terms of expenditure per employee and in the proportion of employers providing structured training. In 1993 their average expenditure per employee was $205, more than 7% above the then all-industry average and there were 31% of all wholesale industry employers providing training, against the all-industry average of 23%.

In other words, over the three-year period employers in wholesaling had reduced their expenditure on structured training per employee by 15.5%. Hours of training per employee also declined over the three-year period by nearly 22%, from 4.46 hours to the 3.49 hours in 1996.

A later ABS survey, *Employer training practices, Australia* (cat.6356.0), undertaken in February 1997 shows an overall higher level of provision of structured training, with 40% of wholesaling employers providing structured training against an all-industry average of 35%. The employers included in this survey were the same employers contacted for the 1996 training expenditure survey. However, training practices data were collected for the previous 12 months rather than the three-month period for the training expenditure survey.

No reliable data are available on the level of apprenticeships and traineeships in the industry. Traineeships are available in wholesale sales, electrical wholesale and in warehousing.

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[2] ABS, *Employer training expenditure Australia*, cat.6353.0, July to September 1996

Some training issues in wholesale

What steps should be taken to improve the level of employer satisfaction with VET provision, especially the criticism of graduates' work ethic and work skills? Is the issue of addressing graduates' work ethic one for the VET sector?

- Graduates working in wholesaling are clearly less satisfied with their TAFE course than are TAFE graduates in general. Improvements appear to be needed in the provision of equipment and in the provision of career information.
- Does the grouping of wholesaling with retailing and personal services mean that the smaller wholesaling sector receives less attention from industry and government bureaucrats than it should?
- What measures can be taken to lift the industry's own effort in the provision of structured training, notwithstanding the apparent increase in the 1997 training practices survey?
- Why don't more TAFE graduates enter the wholesale industry, given that the industry has a disproportionate share of middle-level skill jobs? Although the industry accounts for about 5.8% of all jobs, it only absorbed about 2.9% of TAFE graduates in the 1997 survey, about half the number its employment share would suggest.
- It appears that there is considerable development required of training in this industry with the industry seeing the development of competency standards as a high priority.

Notes

The following table is extracted from the ANTA resource allocations for 1997 document, available at their website. It shows the planned allocations of government-funded training between the ANTA-defined 'training areas' in terms of 'annual hours curriculum' (AHC).

Table A6.1: Key national shifts in activity between 1996 revised estimates and 1997 projected activity (AHC '000s)

Industry training area	1996 revised	1997 projected	Total increase	Total increase as % of 1996 revised	% of overall increase
Category A					
Arts, Entert, Sports and Rec	11 408	11 928	520	4.6	5.5
Automotive	8 221	8 576	355	4.3	3.7
Building and Construction	18 785	19 009	224	1.2	2.4
Comm Services, Health and Ed	20 910	22 382	1 471	7.0	15.5
Finance, Banking and Insurance	3 420	3 468	48	1.4	0.5
Food Processing	2 454	2 851	396	16.1	4.2
TCF and Furnishings	5 714	5 813	100	1.7	1.0
Communications	1 883	1 963	80	4.3	0.8
Engineering and Mining	15 654	16 607	952	6.1	10.0
Primary Industry	11 874	12 217	343	2.9	3.6
Process Manufacturing	397	479	82	20.6	0.9
Sales and Personal Service	6 527	6 752	225	3.4	2.4
Tourism and Hospitality	16 707	18 151	1 444	8.6	15.2
Transport and Storage	1 686	1 851	164	9.8	1.7
Utilities	11 898	12 145	247	2.1	2.6
Category B					
Business and Clerical	42 412	43 117	705	1.7	7.4
Computing	11 969	12 641	672	5.6	7.1
Science, Technical and Other	6 727	6 870	143	2.1	1.5
Category C					
Gen Education and Training	40 046	41 212	1 166	2.9	12.3
Unallocated	622	779	157	25.2	1.6
Total	**239 316**	**248 810**	**9 494**	**4.0**	**100.0**

Note: TCF – textiles, clothing and footwear

Source: Publications, *ANTA Resource Allocations 1997*, www.anta.gov.au>

Table A6.2: Employed persons by occupation in the wholesale trade industry,1987 and 1996

Occupation (ASCO 4-digit)	1987	1996	Change 1987 to 1996	
				Average annual
	('000s)	('000s)	('000s)	%
1201 General managers	7.7	6.9	–0.8	–1.2
1301 Finance managers	2.8	3.6	0.8	2.9
1303 Sales and marketing managers	14.6	16.6	2.0	1.5
1501 Shop managers	10.7	13.7	3.0	2.9
1601 Managing supervisors (other business)	25.0	23.7	–1.3	–0.6
2211 Electrical and electronics engineers	5.3	3.1	–2.2	–5.9
2701 Accountants	5.9	7.9	2.0	3.4
2707 Computing professionals	5.9	10.1	4.2	6.3
3201 Electrical and electronic engineering assoc./technicians	2.7	4.0	1.3	4.6
3913 Procurement officers	2.8	4.0	1.2	4.2
4103 Metal fitters and machinists	6.9	9.9	3.0	4.2
4205 Structural steel boilermaking/ welding tradespersons	1.8	3.6	1.8	8.2
4315 Office equipment and computer servicers	5.9	8.6	2.7	4.4
4601 Vehicle mechanics	10.1	9.7	–0.4	–0.5
4921 Glass tradespersons	3.5	0.9	–2.6	–14.4
5101 Office secretaries and stenographers	18.1	16.8	–1.3	–0.8
5201 Data processing machine operators	9.7	7.8	–1.9	–2.5
5301 Accounting clerks	33.0	40.4	7.4	2.3
5503 Transport recording and despatching clerks	3.8	2.2	–1.6	–6.1
5505 Stock and purchasing clerks	11.2	14.4	3.2	2.9
5601 Receptionists and information clerks	6.7	10.9	4.2	5.7
5999 Other clerks	5.9	0.9	–5.0	–19.3
6201 Sales representatives	50.7	64.9	14.2	2.9
6301 Sales assistants	32.4	45.2	12.8	3.9
6501 Street vendors canvassers and sales drivers	5.1	4.2	–0.9	–2.2
7105 Truck drivers	16.7	16.2	–0.5	–0.3
7203 Forklift and related drivers	3.0	6.3	3.3	8.8
8105 Hand packers	4.8	7.3	2.5	4.9
8199 Other trades assistants and factory hands	8.2	12.4	4.2	4.8
8907 Storemen/women	28.2	29.3	1.1	0.4
Other occupations	84.8	86.0	1.2	0.2
Total all occupations	**433.9**	**491.5**	**57.6**	**1.4**

Note: As estimates of less than 3500 are subject to high statistical error, they are listed against specific occupations only where there was a higher estimate in either 1987 or 1996. Where estimates of less than 3500 were recorded for both 1987 and 1996, they are included in the 'other occupations' category.

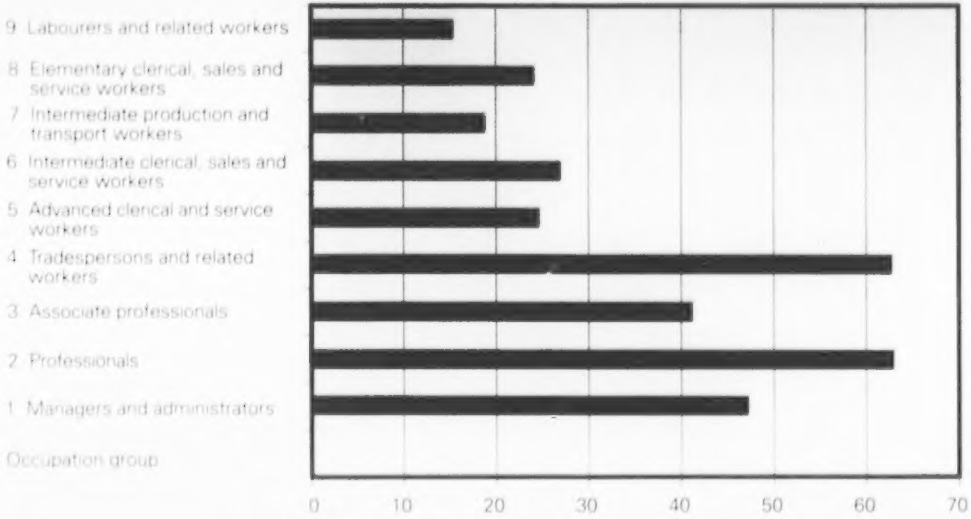
Source: ABS labour force survey, unpublished data

Table A6.3: Wholesale industry workers by level of qualification, 1996 Census

Occupational group	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
1 Managers and Administrators	11 591	3 085	2 983	8 703	2 300	28 662	3 727	28 520	60 909
2 Professionals	13 097	2 257	3 179	4 735	1 499	24 767	2 205	12 506	39 478
3 Associate Professionals	3 547	1 403	2 079	7 330	1 810	16 169	2 694	20 456	39 319
4 Tradespersons and Related Workers	1 016	600	1 293	24 252	962	28 123	2 563	14 604	45 290
5 Advanced Clerical and Service Workers	1 155	882	957	639	2 037	5 670	2 709	15 000	23 379
6 Intermediate Clerical, Sales and Service Workers	5 277	2 498	3 490	12 247	4 718	28 230	7 394	71 537	107 161
7 Intermediate Production and Transport Workers	1 065	561	684	8 308	1 218	11 836	3 751	48 457	64 044
8 Elementary Clerical, Sales and Service Workers	1 542	708	792	3 936	1 095	8 073	2 270	23 752	34 095
9 Labourers and Related Workers	624	280	323	2 312	581	4 120	1 817	21 476	27 413
0 Inadequately described	217	86	70	793	89	1 255	296	2 089	3 640
Not stated	68	29	40	196	25	358	309	1 150	1 817
Not applicable	–	–	–	–	–	–	–	–	–
Total	**39 199**	**12 389**	**15 890**	**73 451**	**16 334**	**157 263**	**29 735**	**259 547**	**446 545**

Source: ABS, 1996 Census of population and housing

Chart A6.1: Workers in wholesale industry, percentage with qualifications by major occupational group, 1996 Census



Source: ABS, 1996 Census of population and housing

Table A6.4: Educational attainment of employed persons by industry, occupation (3-digit ASCO) and type of post-school qualification at 1996 Census

Wholesale trade ASCO code and occupation	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
100 Managers and Administrators not further defined nfd	1 194	454	310	1 473	316	3 747	728	5 027	9 502
110 Generalist Managers nfd	0	3	3	4	0	10	0	19	29
111 General Managers and Administrators	1 812	459	377	1 186	293	4 127	455	3 233	7 815
119 Miscellaneous Generalist Managers	884	340	241	1 183	207	2 855	563	4 538	7 956
120 Specialist Managers nfd	353	87	76	189	49	754	78	651	1 483
121 Resource Managers	1 830	293	457	324	196	3 100	363	2 180	5 643
122 Engineering, Distribution and Process Managers	1 643	390	513	1 448	353	4 347	457	3 955	8 759
123 Sales and Marketing Managers	3 158	890	833	2 374	763	8 018	900	7 388	16 306
129 Miscellaneous Specialist Managers	624	117	120	333	75	1 269	100	596	1 965
131 Farmers and Farm Managers	93	53	55	189	48	438	81	933	1 452
200 Professionals nfd	128	20	34	55	14	251	21	113	385
210 Science, Building and Engineering Professionals nfd	3	0	0	3	0	6	0	3	9
211 Natural and Physical Science Professionals	663	87	71	39	37	897	36	148	1 081
212 Building and Engineering Professionals	1 545	188	450	805	78	3 066	191	437	3 694
220 Business and Information Professionals nfd	60	7	14	23	9	113	7	80	200
221 Accountants, Auditors and Corporate Treasurers	2 967	323	909	72	110	4 381	352	1 422	6 155
222 Sales, Marketing and Advertising Professionals	3 561	956	1 008	2 804	784	9 113	936	7 098	17 147
223 Computing Professionals	2 393	253	335	298	189	3 468	230	1 301	4 999
229 Miscellaneous Business and Information Profs	825	139	185	378	150	1 677	199	1 107	2 983
230 Health Professionals nfd	0	0	0	0	0	0	0	0	0
231 Medical Practitioners	36	8	3	5	3	55	0	17	72
232 Nursing Professionals	38	49	0	4	6	97	4	16	117
238 Miscellaneous Health Professionals	169	12	5	3	5	194	21	28	243
240 Education Professionals nfd	0	0	0	0	0	0	0	0	0

Wholesale trade	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
241 School Teachers	16	9	3	6	3	37	3	12	52
242 University and Vocational Education Teachers	23	6	5	12	0	46	9	20	75
249 Miscellaneous Education Professionals	56	13	10	24	9	112	16	56	184
250 Social, Arts and Miscellaneous Professionals nfd	0	0	0	0	0	0	0	0	0
251 Social Welfare Professionals	17	5	4	5	3	34	8	39	81
252 Miscellaneous Social Professionals	128	4	3	6	3	144	11	37	192
253 Artists and Related Professionals	399	141	109	145	65	859	128	497	1 484
254 Miscellaneous Professionals	72	37	30	50	34	223	34	77	334
300 Associate Professionals nfd	30	15	23	99	22	189	44	271	504
310 Science/Engineering and Related Assoc Profs nfd	31	8	20	44	7	110	9	43	162
311 Medical and Science Technical Officers	130	35	78	157	85	485	63	333	881
312 Building/Engineering Associate Professionals	230	126	509	1 564	161	2 590	203	869	3 662
320 Business and Administrative Assoc Profs nfd	3	0	3	5	3	14	0	23	37
321 Finance Associate Professionals	263	90	77	238	106	774	132	801	1 707
329 Miscellaneous Business/Admin Assoc Profs	1 676	594	801	1 259	870	5 200	1 114	7 800	14 114
330 Managing Supervisors (Sales and Service) nfd	0	0	3	9	3	15	3	23	41
331 Shop Managers	566	266	240	1 626	230	2 928	591	5 973	9 492
332 Hospitality and Accommodation Managers	15	14	3	91	9	132	21	161	314
339 Miscellaneous Mngr. Supervisors (Sales and Service)	527	220	272	2 069	268	3 356	457	3 626	7 439
340 Health and Welfare Assoc Professionals nfd	0	0	0	0	0	0	0	0	0
341 Enrolled Nurses	0	0	0	0	9	9	0	0	9
342 Welfare Associate Professionals	5	0	3	5	0	13	3	3	19
349 Miscellaneous Health and Welfare Associate Profs	3	3	3	26	0	35	4	11	50
390 Other Associate Professionals nfd	0	0	0	0	0	0	0	0	0
391 Police Officers	0	0	3	0	0	3	0	0	3
399 Miscellaneous Associate Professionals	71	31	45	136	36	319	49	515	883
400 Tradespersons and Related Workers nfd	49	22	86	882	43	1 082	110	509	1 701

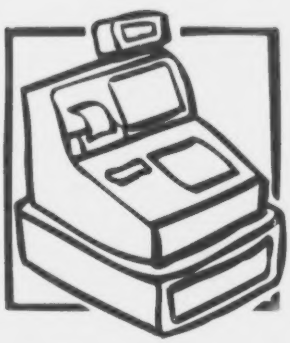
Wholesale trade	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
410 Mechanical/Fabrication Engineering Trades nfd	0	0	0	20	3	23	3	9	35
411 Mechanical Engineering Tradespersons	162	110	258	7 808	157	8 495	543	2 534	11 572
412 Fabrication Engineering Tradespersons	21	8	14	1 513	48	1 604	159	899	2 662
421 Automotive Tradespersons	27	31	46	4 850	58	5 012	363	2 019	7 394
431 Electrical and Electronics Trades	523	253	695	5 360	349	7 180	691	3 346	11 217
440 Construction Tradespersons nfd	0	0	0	4	0	4	0	3	7
441 Structural Construction Trades	10	10	14	635	15	684	88	487	1 259
442 Final Finishes Construction Trades	0	0	3	111	6	120	23	168	311
443 Plumbers	3	3	12	433	12	463	33	231	727
451 Food Tradespersons	19	17	16	827	37	916	126	1 097	2 139
460 Skilled Agricultural/Horticultural Workers nfd	0	0	0	0	0	0	0	0	0
461 Skilled Agricultural Workers	7	8	10	97	42	164	40	165	369
462 Horticultural Tradespersons	77	52	53	330	86	598	89	1 000	1 687
490 Other Tradespersons and Related Workers nfd	0	0	0	3	0	3	0	6	9
491 Printing Tradespersons	19	13	10	299	23	364	44	385	793
492 Wood Tradespersons	15	4	5	393	8	425	52	373	850
493 Hairdressers	0	3	0	49	3	55	4	7	66
494 Textile, Clothing and Related Trades	18	33	33	105	25	214	54	384	652
498 Miscellaneous Tradespersons and Related Wkrs	61	35	38	533	48	715	142	982	1 839
500 Advanced Clerical and Service Workers nfd	3	0	0	5	0	8	0	9	17
511 Secretaries and Personal Assistants	623	584	520	308	1 613	3 648	2 019	9 157	14 824
590 Other Advanced Clerical and Service Wkrs nfd	0	0	0	0	0	0	0	0	0
591 Advanced Numerical Clerks	463	263	391	169	353	1 639	554	4 631	6 824
599 Miscellaneous Advanced Clerical and Service Wkrs	67	34	46	157	71	375	136	1 203	1 714
600 Intermediate Clerical, Sales and Service Wkrs nfd	26	12	20	52	22	132	28	311	471
610 Intermediate Clerical Workers nfd	0	0	0	0	0	0	3	16	19
611 General Clerks	487	296	315	352	671	2 121	1 135	10 080	13 336

Wholesale trade	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
612 Keyboard Operators	192	115	162	103	299	871	500	3 610	4 981
613 Receptionists	108	109	180	134	441	972	555	3 644	5 171
614 Intermediate Numerical Clerks	511	216	589	278	469	2 063	703	5 570	8 336
615 Material Record and Despatch Clerks	846	367	597	2 082	867	4 759	1 243	14 412	20 414
619 Miscellaneous Intermediate Clerical Workers	275	108	169	251	228	1 031	293	2 205	3 529
621 Intermediate Sales and Related Workers	2 781	1 238	1 424	8 876	1 675	15 994	2 828	31 149	49 971
630 Intermediate Service Workers nfd	0	0	0	3	0	3	3	9	15
631 Carers and Aides	10	9	6	43	7	75	17	120	212
632 Hospitality Workers	15	3	9	8	7	42	15	168	225
639 Miscellaneous Intermediate Service Workers	22	26	18	65	31	162	75	243	480
700 Intermediate Production and Transport Wkrs nfd	12	6	10	159	24	211	77	727	1 015
710 Intermediate Plant Operators nfd	0	3	0	43	10	56	23	206	285
711 Mobile Plant Operators	54	34	40	658	154	940	393	5 369	6 702
712 Intermediate Stationary Plant Operators	30	21	28	407	56	542	135	1 378	2 055
720 Intermediate Machine Operators nfd	125	29	45	386	55	640	254	2 343	3 237
721 Intermediate Textile/Clothing/Related Mach Ops	29	24	21	74	20	168	84	903	1 155
729 Miscellaneous Intermediate Machine Operators	28	18	15	251	26	338	111	1 160	1 609
731 Road and Rail Transport Drivers	135	131	147	3 380	285	4 078	1 114	15 382	20 574
790 Other Intermediate Prod'n and T'port Wkrs nfd	0	0	0	4	0	4	0	6	10
791 Intermediate Mining and Construction Workers	16	7	11	255	43	332	65	492	889
799 Misc Intermediate Prod'n and Transport Wkrs	634	289	365	2 691	545	4 524	1 495	20 491	26 510
800 Elementary Clerical, Sales and Service Wkrs nfd	0	0	3	5	4	12	3	25	40
811 Elementary Clerks	61	26	46	62	74	269	103	1 078	1 450
820 Elementary Sales Workers nfd	5	3	3	3	0	14	0	68	82
821 Sales Assistants	1 215	525	602	2 871	774	5 987	1 556	15 919	23 462
829 Miscellaneous Elementary Sales Workers	237	130	121	877	217	1 582	522	5 923	8 027
831 Elementary Service Workers	25	23	17	118	25	208	86	739	1 033
900 Labourers and Related Workers nfd	45	21	22	178	36	302	209	1 947	2 458

Wholesale trade	Bachelor degree or higher	Undergraduate diploma	Associate diploma qualification	Skilled vocational qualification	Basic vocational	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
911 Cleaners	34	24	20	164	39	281	173	2 084	2 538
920 Factory Labourers nfd	5	0	0	3	3	11	3	54	68
921 Process Workers	182	60	97	800	141	1 280	476	6 036	7 792
922 Product Packagers	206	100	74	343	175	898	568	6 065	7 531
990 Other Labourers and Related Workers nfd	0	0	0	3	0	3	0	9	12
991 Mining, Construction and Related Labourers	14	5	7	132	17	175	46	529	750
992 Agricultural and Horticultural Labourers	84	46	73	294	116	613	183	2 505	3 301
993 Elementary Food Preparation and Related Wkrs	15	6	4	20	9	54	29	470	553
999 Miscellaneous Labourers and Related Workers	40	18	24	376	46	504	130	1 777	2 411
099 Inadequately described	217	86	70	793	89	1 255	296	2 089	3 640
Not stated	68	29	40	196	25	358	309	1 150	1 817
Not applicable	–	–	–	–	–	–	–	–	–
Total	**39 196**	**12 391**	**15 890**	**73 452**	**16 336**	**157 265**	**29 738**	**259 545**	**446 548**

Note: ntd – not further defined

Source: ABS, 1996 Census of population and housing



7 Retail

THE RETAILING SECTOR is the largest single industry of employment in Australia, with more than 1.2 million workers in the industry, placing it just ahead of manufacturing.[1] It is characterised by high levels of part-time and casual employment, a young workforce, including many young people still in full-time education, and employment that is widely distributed geographically.

It has long been regarded as a sector that provides the first employment experience for many young people, but is not regarded as a long-term employment option by many of those who start in the sector, despite the fact that the majority of jobs in retailing are full time. For this reason it is often referred to as a 'vestibule' industry, providing the entry point into the broader labour market.

The predominant occupational group in the sector is, not surprisingly, sales assistant which, with more than 600 000 workers, is the largest single occupation in Australia. Only a little over half of these positions are full time, making sales assistant the largest part-time job category in the country.

Sales assistant is also the largest occupation for both men and women but is only the second largest full-time job for women, behind accounts clerks and the third largest full-time job for men, behind truck drivers and farmers.

The retailing industry is made up of three main sub-divisions: food retailing; personal and household goods; and motor vehicles retailing and servicing. Across all sectors it is made up of a relatively small number of large employers and many small employers, with about 138 000 establishments in all across Australia.

Given the geographical range of the industry, its internal diversity and its high proportion of short-term employment, it is not a big spender on training. During July to September 1996, retailing industry expenditure on structured training per employee was less than half the average of all industries, although hours spent in training per employee was better at 70% of the all-industry average. Training expenditure per employee in retailing, however, contrary to the trend across all industries, actually rose between 1993 and 1996.

While training statistics generated under the Australian Vocational Education and Training Management Information Statistical Standard (AVETMISS) do not allow a perfect comparison with industry data from the Australian Bureau of Statistics (ABS), it is clear that retailing is a sector that nationally receives relatively little government financial support.

Only about 2.5% of government-funded training occurs in the sales and personal service occupational area, the area which most closely matches retailing. (It also includes courses of training for the hospitality sector, among others.) Retailing is the industry that has the second lowest proportion (only ahead of agriculture) of its workforce with a post-school qualification. Less than 40% of the industry's workforce has a post-school qualification. The majority of Australian industries have between 40% and 60% of employees with post-school qualifications.

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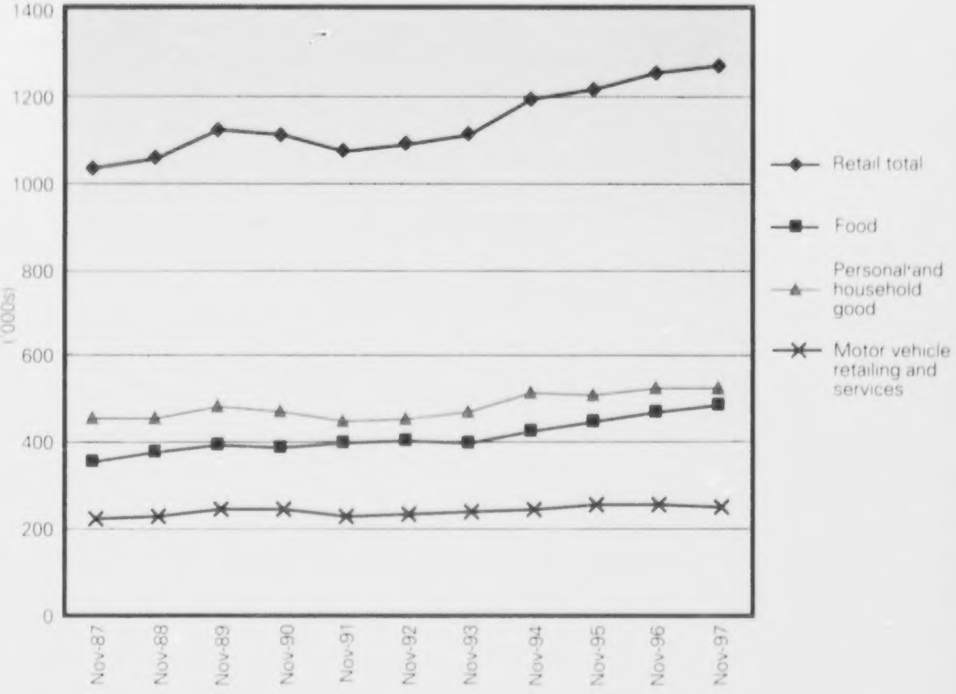
[1] ABS, *Labour force, Australia*, cat.6203.0, November 1997

The survey on employer satisfaction with vocational education and training for 1997 (ESS), compiled by the National Centre for Vocational Education Research (NCVER), showed retailing to be among the industries with lower levels of satisfaction with technical and further education (TAFE) training. In that survey, retailing was the industry with the highest proportion of employers surveyed that employed recent vocational education and training (VET) graduates. This result might be explained by the industry's size and its provision of temporary jobs, rather than necessarily by a particular preference for VET graduates.

In the TAFE graduate destination survey for 1997 (GDS), also compiled by the NCVER, almost 14% of TAFE graduates were working in retailing when surveyed in May 1997. This put retailing second only to the community services and health sector as the main employer of recent VET graduates. On an occupational basis, almost 20% of those graduates were employed in sales and personal service jobs when surveyed. Typically, they had completed a certificate course or an associate diploma.

Over the last ten years the industry has shown consistent growth in employment, mostly in the food sector. While much of this growth has been in part-time employment, the industry has shown full-time jobs growth as well. Over the next few years, further above-average growth is expected by many forecasters.

Chart 7.1: Employment in retailing by sub-sector, 1987–1997, Australia (ABS labour force survey)



Source: ABS, *Labour force, Australia*, cat.6203.0, 1987–1997

An industry snapshot

Retailing has in recent years overtaken manufacturing as the largest industry of employment in Australia with over 1.2 million persons employed in the sector, representing around 13.4% of all persons employed. A small majority, about 52%, of its employees are female. The industry's gross product accounts for over 7% of total Australian gross domestic product (GDP).

Over the last ten years employment in retailing has grown quite consistently, and above the average for all industries, adding more than 240 000 jobs in that period, or growing by 23.3%. Over the same period, total employment grew by about 19%.

Table 7.1: Employment ('000s) in retail trade by sub-division, by gender and type of employment, Australia, November 1997

Industry sub-division	Males	Females	Full-time	Part-time	Total
Food retailing	*212.3*	*279.0*	*201.7*	*289.7*	*491.4*
Supermarket and grocery stores	83.8	128.9	85.0	127.8	212.8
Specialised food retailing	128.5	150.1	116.7	161.9	278.6
Personal and household good retailing	*198.5*	*333.7*	*300.1*	*232.3*	*532.5*
Department stores	28.1	73.3	35.2	66.2	101.4
Clothing and soft good retailing	17.7	70.5	47.9	40.3	88.3
Furniture, houseware and appliance retailing	57.0	38.4	71.4	24.0	95.5
Recreational good retailing	28.7	32.8	37.9	23.7	61.5
Other personal and household good retailing	50.6	113.1	89.6	74.2	163.8
Household equipment repair services	16.4	5.6	18.1	3.9	22.0
Motor vehicle retailing and services	*202.8*	*50.8*	*208.3*	*45.3*	*253.6*
Motor vehicle retailing	52.0	8.2	56.5	3.7	60.2
Motor vehicle services	150.8	42.6	151.8	41.6	193.4
Total	**613.8**	**663.7**	**710.2**	**567.3**	**1277.5**

Source: ABS, *Labour force, Australia*, cat.6203.0, November 1997

Retail turnover in Australia rose quite strongly between December 1996 and 1997 by 4.7%. In December 1997 total retail turnover amounted to more than $11.2 billion. Towards the end of 1997 turnover showed signs of slowing, with food retailing and households goods contributing most to the slowdown, with the trend more evident in the major eastern States.

On the latest figures available there were 138 700 retailing establishments operating in Australia (1994–1995), of which 134 700 were classified as small businesses. This means that retailing is the second largest business when measured both in terms of total establishments and in terms of small businesses, behind building and construction.

Employment in retailing is distributed fairly evenly across Australia in proportion to population. The following table shows the number of people employed in the industry by State, by sex.

Table 7.2: Employment ('000s) in retailing by State/Territory, 1995

	NSW	Vic	Qld	SA	WA	Tas	NT	ACT
Males	186.5	150.2	106.3	45.6	57.5	14.7	5.2	11.6
Females	199.6	148.0	119.7	48.1	62.7	15.4	5.0	10.3
Total	**386.1**	**298.2**	**226.0**	**93.7**	**120.3**	**30.1**	**10.2**	**21.8**

Source: ABS, *Labour force, Australia*, cat.6204.0, 1995

In New South Wales, Queensland, Western Australia, Tasmania and the Northern Territory, retailing is the largest employing industry, while in Victoria and South Australia it is second to manufacturing in importance. In the Australian Capital Territory it is second largest after government administration and defence.

Average hours worked per employee are relatively low in retailing. For females the average weekly hours worked (November 1997) were 25.4 against an all-industry average for women of 29 hours. Similarly, for men the average hours worked in retailing were 37.5, against a weekly average across all industries for men of 40.6 hours.

About 24% of all retailing employees were born outside Australia, a proportion similar to the total workforce.

Retailing provides jobs for 51% of all teenagers in the Australian workforce, swamping all other sectors in importance as a first industry of employment for most young people. This means there are about 300 000 teenagers working in retailing out of a total of 586 000 teenagers in the employed workforce. The next most significant industry of employment for teenagers—accommodation, cafés and restaurants—employs only 52 700 young people across Australia.

Teenagers represent 23.5% of all workers in retailing, whereas they represent only 6.9% of all workers across all industries.

- Retailing is the largest employing industry in Australia with over 1.2 million workers.
- Retailing jobs have grown more quickly over the last decade than total jobs.
- Of all jobs in retailing, 45% are part time.
- Women account for 52% of the workers in retailing.
- More than half of all teenagers working in Australia have a retailing job.

Occupational composition

The following table shows the broad occupational groups within retailing, and compares their percentage share with the total workforce.

Table 7.3: Occupational profile, retailing and total workforce, Australia, November 1997

Occupation group	Retailing %	Total workforce %
Managers and administrators	1.4	7.6
Professionals	2.5	17.4
Associate professionals	14.1	10.5
Tradespersons and related	14.0	13.2
Advanced clerical and service	2.0	4.5
Intermediate clerical/sales/service	8.6	17.1
Intermediate production/transport	7.2	9.2
Elementary clerical/sales/service	43.2	10.5
Labourers and related	6.9	10.1
Total	**100.0**	**100.0**

Source: ABS, *Labour force, Australia*, cat.6203.0, November 1997

Clearly, the retailing industry is quite different in its occupational structure to the total workforce. Retailing has 43.2% of its occupations in the relatively unskilled elementary clerical, sales and service group, and a further 6.9% in the unskilled labouring and related category—in all, over half its workforce is in low-skill-level jobs. The total workforce has only around 20% in these two categories.

Retailing employs a relatively lowly qualified workforce. Consistent with the occupational profile outlined above, its qualifications profile is also below the total workforce average. In part, of course, this can be explained by the industry's high reliance on teenage workers (23.5% of the retail workforce), many of whom are either still at school or in some other form of study. The following table shows the qualifications profile of those working in the retail sector as at May 1997.

Table 7.4: Qualifications of retail workers, percentage distribution, Australia, May 1997

	Bachelor's degree or higher	Diploma/ associate diploma	Skilled vocational	Basic vocational	Without post-school qualification
Retailing	5.3	4.2	11.3	7.5	60.2
Total industry	**17.2**	**9.0**	**12.6**	**9.4**	**49.4**

Source: ABS, *Transition from education to work*, cat. 6227.0, May 1997

In the ABS 1993 publication *Training and education experience, Australia*, retailing was highlighted as one of the main industry sectors employing a high proportion of persons without post-school qualifications. At that time, 68.9% of retailing employees lacked a post-school qualification, with a significant gap between males (58.9% without qualifications) and females (with 77.1% lacking post-school qualifications). In real terms this meant that almost three-quarters of the almost half a million females in retailing in Australia lacked a formal post-school qualification. While there has been an improvement since then, it is clear that for many of the women in the industry, the lack of a credential is not simply because they are teenagers.

Occupational trends and skills shortages

As noted earlier, there has been strong growth in retailing in recent years. Over the last decade employment has risen by about 26%, well above the 17% growth in total employment. The following table shows the main occupations where the changes have occurred.

Table 7.5: Employment growth ('000s) by selected occupation, retailing, Australia, 1987–1996 (occupations with over 20 000 employed)

	Managing supervisors	Vehicle trades	Food trades	Numerical clerks	Sales assistants	Cashiers etc.	Misc. sales-persons	Labourers	Total
1987	118.4	83.0	38.1	41.1	367.5	49.9	32.7	77.1	992.5
1996	117.1	110.1	39.1	54.3	488.8	85.0	28.6	108.9	1249.8
Change	**–1.3**	**27.1**	**1.0**	**13.2**	**121.3**	**35.1**	**–4.1**	**31.8**	**257.3**

Source: ABS, labour force survey, various

An above-average proportion of employers in retailing, 34%, believed there were insufficient VET graduates available to meet their needs. On the other hand, 65% believed there were sufficient numbers and 1% could not say.

Of those employers who identified shortages, 68% believed that the shortages existed in the trades area. As most employers of motor vehicle mechanics are coded to retailing by the ABS, it is likely that these make up a substantial proportion of employers identifying shortages. The strong growth evident in the vehicle trades in the above table supports this assumption. Of those employers who believed there were shortages, 34% also identified the sales and service area as one where they experienced shortages, a surprisingly high response.

Hours of work and earnings

Retailing is an industry characterised by a high level of part-time work, with almost 45% of the jobs in the sector being part time. The following table summarises employment in the industry by hours worked and by sex, as at November 1997.

Table 7.6: Retail employment, by sex and hours worked, Australia, November 1997

	Full-time ('000s)		**Part-time ('000s)**		**Total ('000s)**	
	No.	%	No.	%	No.	%
Males	449.7	63.3	164.1	28.9	613.8	48.0
Females	260.5	36.7	403.2	71.1	663.7	52.0
Total	**710.2**	**100.0**	**567.3**	**100.0**	**1277.5**	**100.0**

Source: ABS, *Labour force, Australia*, cat.6203.0, 1997

Retailing is the industry that has the closest balance of the sexes in terms of total employment among all 17 industry divisions. Retailing accounts for more than one in four of all part-time jobs in Australia.

The industry enjoys among the lowest labour costs per employee, second only to accommodation, cafés and restaurants. In 1993–1994 retailing labour costs per employee were $19 435, compared with the national average of $32 755. Again, it needs to be kept in mind that the industry accounts for almost half the jobs for teenagers in Australia and, therefore, it is not surprising that its labour costs are low when a high proportion of its wages are paid at junior rates. Average weekly full-time earnings in retailing are, nevertheless, below the national average. On the latest available figures (May 1996), average weekly full-time adult earnings in the industry were $571, the second lowest of all industries after accommodation, cafés and restaurants, and more than $150 below the national average.

- **Fewer than 4% of workers in retailing are in the management or professional occupational groups. About one in four workers across all industries are found in these areas.**
- **Retailing has a low qualifications profile, with 60% of its workers lacking a post-school qualification—but only 23% of its workforce are teenagers.**
- **Retailing also employs relatively more older workers (over 45) than other industries.**
- **More than one in four of all part-time jobs in Australia are in retailing.**

Training in retailing

There is a fundamental dilemma with existing training statistics when an analysis of training activity by industry is attempted. Students enrolled in TAFE colleges and with other VET providers are not necessarily associated with an employer and hence with a specific industry. The Australian National Training Authority (ANTA) attempts to relate each course to the industry most likely to employ graduates of that course, but this is obviously a difficult task.

ANTA's analysis of government-funded VET activity suggests that retailing receives a small proportion of government funds. (See table A7.1 in the notes at the end of this chapter.) As noted above, one estimate suggests that retailing only receives about five hours of government-funded training per person employed in retailing, compared with an overall average of 27 hours.

On another analysis by ANTA, only about 2.6% of government-funded training activity was directed at sales and personal service jobs. It needs to be kept in mind that

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less than 60% of total training hours were allocated to specific industry training areas—over 40% of government VET-funded activity was targetted at general education, business and clerical and related general areas of training. It is likely that many of the graduates from these areas would have acquired skills appropriate to some parts of retailing.

Moreover, when the destinations of TAFE graduates are examined, see below, it is apparent that retailing is a significant consumer of government-funded VET provision. Retailing, in 1997, was the second largest employer of recent TAFE graduates, providing jobs for nearly 14% of all surveyed graduates. To some extent the historically low level of public funding directed specifically at retailing has been the result of TAFE provision not being sufficiently flexible to meet the needs of retailing. The implementation of new training packages under New Apprenticeships might see a substantial shift towards government funding for retailing.

Employer satisfaction with VET

As noted earlier in this chapter, the 1997 ESS revealed retailing as one of the industries with a relatively low satisfaction rating for TAFE training. Nevertheless, the satisfaction scores for all industries were only spread across a narrow range, between 5.9 and 6.9 out of 10, with retailing giving TAFE a 6.5 rating. This does not necessarily imply widespread or deep-seated dissatisfaction with TAFE training in the industry. There were, however, only two other industries out of 17 which registered a lower level of satisfaction with TAFE than retailing. Retailing did rate non-TAFE VET providers ahead of TAFE.

Retailing was more likely to employ VET graduates who started work with the organisation prior to graduating. It is apparent then that despite being in a somewhat better position to influence the employee's choice of training provider, and being the largest industry sector employing VET graduates, retailers as a whole have so far failed to bring this influence to bear on the training market.

It seems apparent that there are still shortcomings in the way estimates of government activity by industry target group are measured. While funding directed to retailing appears to be low, the industry's significant uptake of recent graduates indicates that despite retailing's comparatively high level of dissatisfaction with VET training and a relatively low level of training targetted specifically at retailing, it is still absorbing substantial numbers of graduates. It is reasonable to assume that many generalist graduates from VET are gaining skills appropriate to the industry.

In the 1997 ESS employers were asked to identify those areas of training provision most in need of improvement. Retailing employers' responses generally followed the overall pattern of all employers. However, their priorities varied somewhat from the industry average.

Retailers gave highest priority to improving the capacity of VET graduates to work without supervision, with 17.5% giving this as the highest need. The next highest ratings were given to improving VET graduates' work skills compared to non-graduates and improving their work ethic. These areas were among the top four priorities for employers across all industries. However, while employers across all industries rated improving the content of courses as the highest priority, this area did not get a high rating among retailing employers.

The implication is that some retailing employers expect the VET experience to lead to behavioural changes in students and, while they are generally satisfied with the factual content of the training curriculum, they are not satisfied that VET is noticeably changing the maturity and independence of students.

- Retailing has a relatively low proportion of government VET funds specifically targetted at it. However, it is a major destination of employment for new graduates.
- Retailing employers were less satisfied with VET provision than those in most other industries.

VET graduates in retailing

The 1997 GDS found that retailing was the second largest industry of employment for 1996 TAFE graduates, after the health and community services sector. Overall, 13.9% of 1996 TAFE graduates were employed in the retailing industry, up from 12.7% at the time of the 1995 survey.

On an occupational basis the sales and personal services area was also the second highest destination for 1996 TAFE graduates. Of the 43 000 graduates in the survey, about 8500 were working in sales and personal service jobs when contacted. The only occupational group that recorded more TAFE graduates in the survey was the tradespersons category.

In the 1997 survey almost 20% of TAFE graduates were employed in the sales and personal services occupational group. The main qualifications held by TAFE graduates entering retailing were, in order, certificate (other), associate diploma, Australian Qualification Framework (AQF) certificate III and advanced certificate (other).

Of those graduates working in sales and personal service jobs, as a result of undertaking their TAFE course:

- over 33% had either found a job or changed their job
- about 23% had received an increase in earnings as a result of having undertaken their TAFE course, while
- 15% had received a promotion

Graduates in the 1997 survey generally rated their course of study quite highly. In regard to the overall quality of the course they had undertaken, 84% of graduates working in retailing gave a score of at least 7 on a 10-point scale. Using the same scale, 72% of those working in retailing rated the question as to whether 'course content reflects industry practice' at least a 7, about the same score given on this question by all employed graduates surveyed.

One area that emerged as unsatisfactory in the view of VET graduates working in retailing was the adequacy of information provided about careers and jobs available. Only 44% rated this at least a 7 on the 10-point scale. This was, nevertheless, somewhat better than the rating given to this item by all graduates surveyed, with only 41% of the total survey population giving a 7 or better.

The major reasons for undertaking their course of study among graduates working in retailing were either to get a job, because the course was a requirement of their current job, or to get a better or different job. While the majority were either fully or partially successful in their objectives, many were unable to judge at that stage, indicating that their objectives might be expected to be achieved over a longer time period.

Whether the jobs currently occupied simply represent graduates taking casual jobs while waiting for a permanent job in another industry, perhaps more directly related to their qualifications, is not clear at this stage but is worthy of further investigation. To some extent this conjecture is supported by data from the 1995 GDS which found that of those graduates who had been unemployed before doing their TAFE course, the largest number found employment in retailing.

The assumption that some graduates entered retailing as a stop-gap could perhaps also be supported by another finding of the 1995 survey. A little over 8% of all graduates in the survey who were working had taken more than three months to find a job, while almost 10% of those working in retailing had taken more than three months to become employed. At the 1997 survey a relatively high 42% of graduates were working part time when surveyed.

When rating the various aspects of their course in the 1997 survey, graduates working in retailing generally gave ratings close to or above the average for all graduates. Counting those who gave a rating of at least 7 on a 10-point scale, only three responses varied from the average by more than three percentage points. Graduates working in retailing gave:

- a better score than average in regard *to information provided in relation to careers and jobs in the industry* (but still a poor 44% versus 41% across all industries)
- but below-average scores for *the usefulness of their course for job prospects* and, no doubt related to this, *how well employers regarded their qualification*

In the 1995 GDS, almost exactly 50% of the surveyed graduates across all industries found their TAFE course to have been 'highly relevant' to the job they were in at the time of the survey (about six months after finishing their course). Levels of satisfaction, however, varied according to both the industry sector and the occupation of the graduate. The following tables show, for the main industries and all occupational groups, the proportion of graduates rating their TAFE course as 'highly relevant'.

- TAFE graduates working in retailing tended to rate the *quality* of their course quite highly but rated the *relevance* quite lowly.
- Like graduates working in most other industries, they were not very satisfied with the provision of information on careers and jobs.
- A high proportion of graduates working in retailing, 42%, were working part time.
- It is not clear what proportion of those working in retailing saw the industry as their longer-term career.

Table 7.7: Proportion of TAFE graduates by industry, rating their course 'highly relevant to their job', 1995 and 1997 GDS

Industry	**Proportion rating 'highly relevant'**	
	1995 survey	1997 survey
Manufacturing	52%	51%
Construction	70%	69%
Retail trade	**39%**	**38%**
Accommodation, cafés and restaurants	51%	45%
Property and business services	55%	51%
Health and community services	62%	62%

It is clear from the above that over the last two GDS, graduates working in retailing, while generally satisfied with most aspects of their courses, did not regard their studies as being as relevant as graduates working in the other major destination industries for TAFE graduates.

Table 7.8: Proportion of TAFE graduates by occupational group rating their course 'highly relevant', 1995 GDS

Occupational group	**Proportion rating 'highly relevant'**
Managers and administrators	49%
Professionals	50%
Para-professionals	57%
Tradespersons	74%
Clerks	41%
Sales and personal service workers	43%
Plant and machine operators and drivers	27%
Labourers and related	31%

Average weekly earnings for graduates in retailing were lower than in all other sectors apart from accommodation, cafés and restaurants. Full-time workers in retailing also recorded the second lowest average weekly earnings behind accommodation, cafés and restaurants, although retailing showed by far the smallest difference between full-time earnings for males and females.

In all industries surveyed, female TAFE graduates working full time earned less than their male counterparts. However, the difference in retailing was only $4 per week. In several industry sectors the difference was over $150 per week and in mining the difference was more than $300 per week.

Employer support for training

The ABS employer training expenditure survey (TES) (cat.6353.0) is the main source of data on how much employers spend on their own structured training. The TES shows that during the three-month survey period, employers in retailing spent 3.39 hours per employee in 1996, down from the 4.14 hours in 1993 under the Training Guarantee arrangements. Over the same period the retail industry's proportion of gross wages and salaries spent on training declined marginally from 1.96% to 1.92%.

Additionally, over this period the proportion of retailing employers providing training actually fell from 18.57% in 1993 to 14.15% in 1996. Against the general trend, however, expenditure per employee actually rose in retailing over the three-year period from $74.23 to $88.11, whereas for all industries training expenditure per employee fell over the same period from $191.25 to $185.49.

Clearly, retailing is still well behind most other industries in its spending on training per employee, with only accommodation, cafés and restaurants providing less.

The 1995 GDS showed that about 40% of graduates who were employed in the final semester of their course received some form of assistance from their employer, largely through payment of fees or paid time off to attend classes.

This level of support was lower than in some other industries that were significant employers of graduates attending TAFE courses. Overall, around 51% of all surveyed graduates received some form of employer support. In the other industry sectors employing large numbers of graduates, the levels were:

❖ manufacturing	69%
❖ health and community services	49%
❖ property and business services	50%
❖ accommodation, cafés and restaurants	39%
❖ government administration and defence	76%
❖ personal and other services	64%

From the same survey, when analysed by occupation, persons working in the sales and personal services occupational group had the lowest level of employer support for TAFE attendance. The level of employer support for students employed in their final semester, by occupational group, was as follows:

❖ managers	57%
❖ professionals	46%
❖ para-professionals	64%
❖ tradespersons	76%
❖ clerks	54%

- sales and personal workers 38%
- plant and machine operators and drivers 52%

If the retailing industry was to achieve the all-industry average for employer expenditure on structured training per employee, additional expenditure of almost $120 million would be required.

- Retailing employers spend less than all other industries except accommodation, cafés and restaurants on structured training for their employees.
- To reach the industry average for training expenditure per employee, retailing would need to spend an additional $120 million.
- Over recent years, retailing (with the wholesale sector) has been the major employing sector for apprentices.

Retailing, which includes motor vehicles sales and service, is more likely to get its VET training via apprenticeships, and increasingly via traineeships. As yet, retailing is less likely than the average industry to employ VET graduates from certificate and diploma courses. Out of all industries, only building and construction employers were less likely to employ VET certificate (other than trade certificates) or diploma graduates than retailing. Retailing employers were relatively more likely than most employers to employ graduates who had completed an apprenticeship, with 48% of employers in the ESS employing former apprentices. This compared with only 28% of all employers surveyed.

Retailing, largely through the motor vehicle sales and service, and food subdivisions, is a significant employer of apprentices, as shown in the following table where it is grouped with the wholesale sector. Retail and wholesale combined was the largest single industry employing apprentices in 1997.

Table 7.9: No. of apprentices ('000s) by industry of employment, 1995–97, Australia

Industry	1995	1996	1997
Manufacturing	35.2	30.5	25.2
Construction	26.3	27.5	23.2
Wholesale/retail	**30.5**	**28.3**	**35.3**
Accommodation/cafés/restaurants	5.7	8.8	13.7
Cultural/recreation/personal services	8.0	10.6	7.8
Other	13.5	20.6	15.9
Total	**119.2**	**126.3**	**121.1**

Source: ABS, *Transition from education to work*, cat.6227.0, May 1997

Major apprenticeship categories within the retailing industry are motor mechanics (as retailing includes motor vehicle sales and service), florists, bakers and butchers. Many trainees working in the retailing sector undertake traineeships not specifically directed at retailing, such as the small business traineeship.

Some training issues in retailing

- To what extent will the introduction of new training packages under New Apprenticeships see a redirection of government training funds to the retailing industry?
- What level of expansion of training provision is justified on the basis of likely growth in the industry over the medium term? Will employment continue to grow or will the introduction of electronic commerce see traditional, face-to-face retailing decline in importance? If this occurs, what new mix of skills will be appropriate for those working in electronic commerce?
- How can the image of the industry be changed to give it more credibility as a source of more than just casual or 'vestibule' jobs? Does the industry prefer not to train and retain a low skilled workforce? Will this approach see the sector succumb to international competition via internet trading? How might the sector introduce widespread and high quality training?
- To what extent is retailing a vestibule industry; that is, a source of jobs for young people in full-time education and an introduction to employment, but not an industry that they perceive as providing long-term and high quality employment? How will this affect the industry in the future and will it continue to be this way?
- How can the high level of access retailing has to the young *employed* who are still at school be used to provide recognition of a wider range of broad workplace competencies? Should school-based vocational education more actively seek to co-ordinate its provision with the employment many current students would be experiencing?
- What can the VET sector do to meet employers' expectations of behavioural changes in students entering retailing, towards greater maturity and independence?
- What should TAFE and other VET providers do to improve the perceived relevance of their training provision, and the regard for the retailing qualifications afforded by retailing employers?

Notes

The following table is extracted from the Australian National Training Authority (ANTA) resource allocations for 1997 document, available at their website. It shows the planned allocations of government-funded training between the ANTA-defined 'training areas' in terms of 'annual hours curriculum' (AHC).

Table A7.1: Key national shifts in activity between 1996 revised estimates and 1997 projected activity (AHC '000s)

Industry training area	1996 revised	1997 projected	Total increase	Total increase as % of 1996 revised	% of overall increase
Category A					
Arts, Entert, Sports and Rec.	11 408	11 928	520	4.6	5.5
Automotive	8 221	8 576	355	4.3	3.7
Building and Construction	18 785	19 009	224	1.2	2.4
Comm. Services, Health and Ed.	20 910	22 382	1 471	7.0	15.5
Finance, Banking and Insurance	3 420	3 468	48	1.4	0.5
Food Processing	2 454	2 851	396	16.1	4.2
TCF and Furnishings	5 714	5 813	100	1.7	1.0
Communications	1 883	1 963	80	4.3	0.8
Engineering and Mining	15 654	16 607	952	6.1	10.0
Primary Industry	11 874	12 217	343	2.9	3.6
Process Manufacturing	397	479	82	20.6	0.9
Sales and Personal Service	6 527	6 752	225	3.4	2.4
Tourism and Hospitality	16 707	18 151	1 444	8.6	15.2
Transport and Storage	1 686	1 851	164	9.8	1.7
Utilities	11 898	12 145	247	2.1	2.6
Category B					
Business and Clerical	42 412	43 117	705	1.7	7.4
Computing	11 969	12 641	672	5.6	7.1
Science, Technical and Other	6 727	6 870	143	2.1	1.5
Category C					
Gen. Education and Training	40 046	41 212	1 166	2.9	12.3
Unallocated	622	779	157	25.2	1.6
Total	**239 316**	**248 810**	**9 494**	**4.0**	**100.0**

Note: TCF – textiles, clothing and footwear

Source: Publications, *ANTA Resource Allocations 1997*, <www.anta.gov.au>

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Table A7.2: Employed persons by occupation in the retail trade industry, 1987 and 1996

Occupation (ASCO 4-digit)	1987	1996	Change 1987 to 1996	
				Average annual
	('000s)	('000s)	('000s)	%
1303 Sales and marketing managers	5.0	5.7	0.7	1.5
1501 Shop managers	114.0	111.5	-2.5	-0.3
1503 Restaurant and catering managing supervisors	2.6	4.3	1.7	5.9
1601 Managing supervisors (other business)	4.7	4.7	0.0	0.0
2307 Pharmacists	7.9	9.8	1.9	2.5
3913 Procurement officers	2.4	3.8	1.4	5.4
4103 Metal fitters and machinists	3.1	4.0	0.9	3.0
4305 Automotive electricians	5.7	5.3	-0.4	-0.8
4601 Vehicle mechanics	55.1	78.0	22.9	4.1
4603 Panel beaters	20.9	20.8	-0.1	-0.1
4605 Vehicle painters	5.1	9.6	4.5	7.5
4701 Meat tradespersons	23.9	24.0	0.1	0.0
4703 Bakers and pastrycooks	9.9	9.2	-0.7	-0.8
4705 Cooks	4.2	5.9	1.7	4.0
4911 Garment tradespersons	4.3	1.0	-3.3	-15.4
4999 Other tradespersons	4.5	5.9	1.4	3.1
5101 Office secretaries and stenographers	8.7	11.3	2.6	3.0
5201 Data processing machine operators	5.0	5.2	0.2	0.4
5301 Accounting clerks	41.1	54.2	13.1	3.2
5505 Stock and purchasing clerks	6.6	8.2	1.6	2.5
5601 Receptionists and information clerks	5.7	7.8	2.1	3.6
5999 Other clerks	5.8	0.3	-5.5	-28.7
6201 Sales representatives	7.4	10.4	3.0	4.0
6301 Sales assistants	367.5	488.8	121.3	3.3
6403 Cashiers	49.5	84.1	34.6	6.2
6501 Street vendors canvassers and sales drivers	14.7	11.3	-3.4	-3.0
6505 Waiters and waitresses	5.4	4.6	-0.8	-1.8
6599 Other salespersons	12.4	12.3	-0.1	-0.1
7105 Truck drivers	9.4	17.9	8.5	7.6
8101 Trades assistants	4.0	5.6	1.6	3.9
8105 Hand packers	7.8	6.7	-1.1	-1.7
8199 Other trades assistants and factory hands	3.4	4.0	0.6	1.9
8205 Nursery and garden labourers	1.8	4.2	2.4	10.2
8301 Cleaners	12.4	18.6	6.2	4.7
8907 Storemen/women	39.2	46.3	7.1	1.9
8919 Kitchenhands	20.4	41.9	21.5	8.6

Occupation (ASCO 4-digit)	1987	1996	Change 1987 to 1996	
				Average annual
	('000s)	('000s)	('000s)	%
8923 Vehicle accessories fitters	5.0	9.5	4.5	7.6
8999 Other labourers and related workers	9.6	8.3	–1.3	–1.6
Other occupations	76.4	84.8	8.4	1.2
Total all occupations	**992.5**	**1249.8**	**257.3**	**2.7**

Note: As estimates of less than 3500 are subject to high statistical error, they are listed against specific occupations only where there was a higher estimate in either 1987 or 1996. Where estimates of less than 3500 were recorded for both 1987 and 1996, they are included in the 'other occupations' category

Australian Standard Classification of Occupations (ASCO)

Source: ABS labour force survey, unpublished data

Table A7.3: Educational qualifications, retail industry, 1996 Census, Australia, by major occupational group

Retail trade	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
ASCO code and occupation									
1 Managers and Administrators	4 543	1 508	1 277	5 349	1 272	13 949	2 549	20 288	36 786
2 Professionals	13 598	1 491	1 341	1 554	764	18 748	2 600	8 424	29 772
3 Associate Professionals	10 421	5 221	4 161	20 361	4 898	45 062	11 206	105 603	161 871
4 Tradespersons and Related Workers	1 447	1 239	1 416	84 514	1 964	90 580	9 338	49 127	149 045
5 Advanced Clerical and Service Workers	1 019	801	782	899	1 441	4 942	2 620	16 300	23 862
6 Intermediate Clerical, Sales and Service Workers	3 855	1 876	2 298	9 242	3 513	20 784	6 852	67 867	95 503
7 Intermediate Production and Transport Workers	1 515	605	950	5 541	1 564	10 175	4 861	61 933	76 969
8 Elementary Clerical, Sales and Service Workers	11 887	5 014	5 717	13 032	8 963	44 613	28 844	310 489	383 946
9 Labourers and Related Workers	1 025	539	633	3 084	1 032	6 313	5 255	57 587	69 155
0 Inadequately described	162	79	75	652	77	1 045	350	2 482	3 877
Not stated	125	52	43	504	71	795	976	4 091	5 862
Not applicable	–	–	–	–	–	–	–	–	–
Total	**49 597**	**18 425**	**18 693**	**144 732**	**25 559**	**257 006**	**75 451**	**704 191**	**1 036 648**

Source: ABS, 1996 Census of population and housing

Table A7.4 Educational attainment of employed persons by industry, occupation (3-digit ASCO) and type of post-school qualification at 1996 Census

Retail trade ASCO code and occupation	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
100 Managers and Administrators nfd	829	410	288	1 997	331	3 855	905	6 506	11 266
110 Generalist Managers nfd	0	0	0	0	0	0	0	0	0
111 General Managers and Administrators	657	203	145	756	139	1 900	281	2 233	4 414
119 Miscellaneous Generalist Managers	100	66	44	357	42	609	122	960	1 691
120 Specialist Managers nfd	132	31	28	104	36	331	54	466	851
121 Resource Managers	933	208	246	378	187	1 952	298	2 481	4 731
122 Engineering, Distribution and Process Managers	381	117	106	432	94	1 130	147	1 272	2 549
123 Sales and Marketing Managers	1 117	351	306	1 006	357	3 137	602	5 459	9 198
129 Miscellaneous Specialist Managers	334	82	48	120	47	631	75	422	1 128
131 Farmers and Farm Managers	60	40	66	198	39	403	65	488	956
200 Professionals nfd	84	14	31	29	6	164	18	123	305
210 Science, Building and Engineering Professionals nfd	0	0	0	0	0	0	0	0	0
211 Natural and Physical Science Professionals	131	12	7	6	3	159	26	58	243
212 Building and Engineering Professionals	205	37	65	169	15	491	51	130	672
220 Business and Information Professionals nfd	28	8	7	9	10	62	7	60	129
221 Accountants, Auditors and Corporate Treasurers	1 263	192	381	48	51	1 935	195	908	3 038
222 Sales, Marketing and Advertising Professionals	979	251	280	556	226	2 292	328	2 554	5 174
223 Computing Professionals	897	135	172	107	98	1 409	116	775	2 300
229 Miscellaneous Business and Information Profs	432	118	107	249	108	1 014	173	1 509	2 696
230 Health Professionals nfd	6	3	0	0	0	9	0	0	9
231 Medical Practitioners	45	3	0	0	0	48	4	5	57
232 Nursing Professionals	131	155	12	4	15	317	38	36	391
238 Miscellaneous Health Professionals	7 957	66	41	6	20	8 090	1 250	424	9 764

Retail trade ASCO code and occupation	**Bachelor degree or higher**	**Undergraduate diploma**	**Associate diploma**	**Skilled vocational qualification**	**Basic vocational qualification**	**With qualifications**	**Inadequately described or not stated**	**Not applicable (No quals.)**	**Total**
240 Education Professionals nfd	3	0	0	0	0	3	0	0	3
241 School Teachers	189	55	14	10	7	275	17	71	363
242 University and Vocational Education Teachers	291	57	13	14	12	387	14	63	464
249 Miscellaneous Education Professionals	172	68	32	25	32	329	44	266	639
250 Social, Arts and Miscellaneous Professionals nfd	0	0	0	0	0	0	0	0	0
251 Social Welfare Professionals	78	30	9	15	11	143	24	70	237
252 Miscellaneous Social Professionals	83	6	3	6	3	101	10	37	148
253 Artists and Related Professionals	549	254	142	249	123	1 317	242	1 242	2 801
254 Miscellaneous Professionals	71	29	24	49	22	195	42	93	330
300 Associate Professionals nfd	80	25	36	122	39	302	72	597	971
310 Science/Engineering and Related Assoc Profs nfd	11	3	11	14	3	42	6	10	58
311 Medical and Science Technical Officers	34	11	16	48	17	126	26	170	322
312 Building/Engineering Associate Professionals	83	57	175	959	78	1 352	131	447	1 930
320 Business and Administrative Assoc Profs nfd	3	3	0	6	3	15	0	26	41
321 Finance Associate Professionals	75	15	28	28	18	164	33	304	501
329 Miscellaneous Business/Admin Assoc Profs	958	383	451	838	508	3 138	778	6 546	10 462
330 Managing Supervisors (Sales and Service) nfd	32	26	17	84	26	185	47	427	659
331 Shop Managers	7 821	4 049	2 855	14 023	3 536	32 284	8 733	85 409	126 426
332 Hospitality and Accommodation Managers	385	195	178	803	165	1 726	446	4 088	6 260
339 Miscellaneous Mngr. Supervisors (Sales and Service)	631	358	293	3 231	345	4 858	733	5 916	11 507
340 Health and Welfare Assoc Professionals nfd	0	0	0	0	0	0	0	0	0
341 Enrolled Nurses	4	3	4	0	27	38	9	8	55
342 Welfare Associate Professionals	7	0	7	4	4	22	4	20	46
349 Miscellaneous Health and Welfare Associate Profs	3	4	3	0	3	13	3	11	27
390 Other Associate Professionals nfd	0	0	0	0	0	0	0	0	0

Retail trade ASCO code and occupation	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
391 Police Officers	0	0	0	5	0	5	3	10	18
399 Miscellaneous Associate Professionals	293	90	86	195	127	791	180	1 613	2 584
400 Tradespersons and Related Workers nfd	18	17	33	571	28	667	97	470	1 234
410 Mechanical/Fabrication Engineering Trades nfd	0	0	0	0	0	0	0	0	0
411 Mechanical Engineering Tradespersons	56	41	59	3 320	64	3 540	383	1 733	5 656
412 Fabrication Engineering Tradespersons	4	10	0	405	15	434	59	331	824
421 Automotive Tradespersons	283	258	408	57 410	622	58 981	4 566	21 946	85 493
431 Electrical and Electronics Trades	278	149	351	4 792	226	5 796	591	2 810	9 197
440 Construction Tradespersons nfd	0	0	0	0	0	0	0	3	3
441 Structural Construction Trades	3	3	12	430	4	452	61	340	853
442 Final Finishes Construction Trades	17	8	8	470	18	521	130	761	1 412
443 Plumbers	0	0	6	250	9	265	18	106	389
451 Food Tradespersons	210	145	130	12 834	304	13 623	1 924	11 534	27 081
460 Skilled Agricultural/Horticultural Workers nfd	0	0	0	0	0	0	0	0	0
461 Skilled Agricultural Workers	0	0	3	8	3	14	3	16	33
462 Horticultural Tradespersons	128	81	118	406	97	830	132	1 225	2 187
490 Other Tradespersons and Related Workers nfd	3	3	0	3	0	9	3	24	36
491 Printing Tradespersons	11	11	13	158	30	223	28	232	483
492 Wood Tradespersons	29	9	7	251	10	306	45	337	688
493 Hairdressers	3	0	0	196	8	207	16	46	269
494 Textile, Clothing and Related Trades	122	189	114	977	184	1 586	507	2 812	4 905
498 Miscellaneous Tradespersons and Related Wkrs	280	315	155	2 030	343	3 123	777	4 400	8 300
500 Advanced Clerical and Service Workers nfd	0	0	0	0	0	0	3	0	3
511 Secretaries and Personal Assistants	414	429	322	382	890	2 437	1 599	8 010	12 046
590 Other Advanced Clerical and Service Wkrs nfd	0	0	0	0	0	0	0	0	0
591 Advanced Numerical Clerks	486	313	342	340	460	1 941	908	7 228	10 077
599 Miscellaneous Advanced Clerical and Service Wkrs	120	59	118	177	91	565	111	1 061	1 737

Retail trade

ASCO code and occupation	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
600 Intermediate Clerical, Sales and Service Wkrs nfd	17	7	20	47	34	125	42	377	544
610 Intermediate Clerical Workers nfd	0	0	0	0	0	0	3	17	20
611 General Clerks	455	268	262	441	630	2 056	1 211	11 238	14 505
612 Keyboard Operators	132	71	90	59	199	551	269	2 394	3 214
613 Receptionists	110	86	111	129	295	731	380	3 029	4 140
614 Intermediate Numerical Clerks	349	166	374	268	351	1 508	519	5 203	7 230
615 Material Record and Despatch Clerks	475	161	257	705	360	1 958	627	7 931	10 516
619 Miscellaneous Intermediate Clerical Workers	209	65	104	833	168	1 379	241	2 081	3 701
621 Intermediate Sales and Related Workers	1 682	818	808	6 194	1 151	10 653	2 577	28 784	42 014
630 Intermediate Service Workers nfd	3	0	0	3	0	6	3	16	25
631 Carers and Aides	45	32	22	137	35	271	64	465	800
632 Hospitality Workers	222	67	133	135	152	709	476	4 912	6 097
639 Miscellaneous Intermediate Service Workers	156	135	117	292	138	838	442	1 420	2 700
700 Intermediate Production and Transport Wkrs nfd	19	15	. 16	95	42	187	102	1 151	1 440
710 Intermediate Plant Operators nfd	0	0	0	4	3	7	3	20	30
711 Mobile Plant Operators	21	5	13	135	29	203	81	1 064	1 348
712 Intermediate Stationary Plant Operators	4	8	3	82	11	108	25	275	408
720 Intermediate Machine Operators nfd	42	18	16	99	20	195	91	754	1 040
721 Intermediate Textile/Clothing/Related Mach Ops	32	22	31	87	43	215	133	1 368	1 716
729 Miscellaneous Intermediate Machine Operators	22	15	32	145	37	251	93	915	1 259
731 Road and Rail Transport Drivers	338	138	214	1 572	282	2 544	779	10 882	14 205
790 Other Intermediate Prod'n and T'port Wkrs nfd	0	0	0	3	3	6	0	42	48
791 Intermediate Mining and Construction Workers	26	14	26	385	39	490	95	823	1 408
799 Misc Intermediate Prod'n and Transport Wkrs	1 016	370	599	234	1 059	5 978	3 460	44 639	54 077
800 Elementary Clerical, Sales and Service Wkrs nfd	16	5	9	27	21	78	67	820	965
811 Elementary Clerks	55	28	25	40	62	210	135	1 261	1 606

Retail trade ASCO code and occupation	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
820 Elementary Sales Workers nfd	66	17	46	41	65	235	167	2 140	2 542
821 Sales Assistants	9 912	4 249	4 602	10 226	7 138	36 127	21 681	233 194	291 002
829 Miscellaneous Elementary Sales Workers	1 751	666	989	2 441	1 574	7 421	6 388	69 924	83 733
831 Elementary Service Workers	90	49	46	257	103	545	406	3 150	4 101
900 Labourers and Related Workers nfd	38	15	13	81	32	179	195	2 052	2 426
911 Cleaners	175	121	102	1 032	195	1 625	898	10 637	13 160
920 Factory Labourers nfd	0	3	0	3	0	6	0	11	17
921 Process Workers	67	27	21	295	50	460	194	2 364	3 018
922 Product Packagers	119	52	69	169	132	541	411	6 150	7 102
990 Other Labourers and Related Workers nfd	0	0	0	0	0	0	0	11	11
991 Mining, Construction and Related Labourers	6	3	5	53	7	74	28	319	421
992 Agricultural and Horticultural Labourers	81	49	67	164	83	444	132	1 627	2 203
993 Elementary Food Preparation and Related Wkrs	475	234	319	818	451	2 297	3 152	31 501	36 950
999 Miscellaneous Labourers and Related Workers	65	37	37	468	82	689	243	2 915	3 847
099 Inadequately described	162	79	75	652	77	1 045	350	2 482	3 877
Not stated	125	52	43	504	71	795	976	4 091	5 862
Not applicable	–	–	–	–	–	–	–	–	–
Total	**49 000**	**18 430**	**18 692**	**144 724**	**25 563**	**257 009**	**75 452**	**704 187**	**1 036 648**

Note nfd – not further defined

Source ABS, 1996 Census of population and housing

Table A7.5: Educational attainment by industry and occupation (1-digit ASCO) employed persons with post-school qualifications, 1996 Census (per cent)

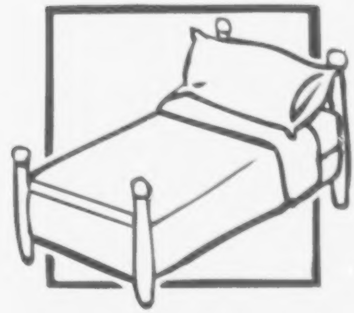
Retailing industry

ASCO code and occupation	Retail trade
	%
1 Managers and Administrators	37.9
2 Professionals	63.0
3 Associate Professionals	27.8
4 Tradespersons and Related Workers	60.8
5 Advanced Clerical and Service Workers	20.7
6 Intermediate Clerical, Sales and Service Workers	21.8
7 Intermediate Production and Transport Workers	13.2
8 Elementary Clerical, Sales and Service Workers	11.6
9 Labourers and Related Workers	9.1
0 Inadequately described	27.0
Not stated	13.6
Not applicable	–
Total	**24.8**

Source: ABS, 1996 Census of population and housing

Table A7.6: Employment in retailing by sub-sector, November 1987–1997 (ABS labour force survey)

	Nov.1987	Nov.1988	Nov.1989	Nov.1990	Nov.1991	Nov.1992	Nov.1993	Nov.1994	Nov.1995	Nov.1996	Nov.1997
Retail total	1035.8	1059.8	1127.6	1114.6	1075.5	1093.6	1116.1	1196.5	1221.2	1261.6	1277.5
Food	355.5	377.6	397.5	392.7	399.2	404.9	398.9	430.5	454.2	475.7	491.4
Personal and household good	458.9	456.2	483.9	473.7	450.2	456.1	475.1	521.3	510.7	530.1	532.4
Motor vehicle sales and services	221.4	226.0	246.2	248.2	226.1	233.0	242.1	244.7	256.3	255.8	253.7



8 Accommodation, cafés and restaurants

The accommodation, cafés and restaurants industry in Australia, which represents more than half Australia's total tourism and hospitality related employment, is one of the middle-sized employment sectors. The accommodation, cafés and restaurants sector accounts for roughly 4.5% of all jobs in Australia.[1] As a whole, the tourism industry accounts for about 7.4% of expenditure on gross domestic product (GDP) in Australia and generated around $16 billion in export earnings in 1996–1997.

Over the last decade, accommodation, cafés and restaurants has been one of the fastest growing areas of employment throughout Australia. Since 1987 the number of jobs in the sector has risen from about 257 000 to about 372 000 in 1996, or by around 115 000. By early 1997 there were more than 400 000 people employed in the area. The accommodation sub-sector accounted for about 81 000 jobs as at June 1996. Looked at in another way, this represents average annual growth over the decade of 4.3%, second only to the property and business services sector. Over the decade, employment across all industries grew at an annual average rate of 1.8%.

The industry employs more females than males. Roughly 57% of employees are females and the industry is also a significant source of casual and part-time jobs. About 43% of jobs in the industry are part time, while Tourism Training Australia has estimated that more than 50% of hospitality jobs are casual.

Labour costs in this sector are the lowest of all industry divisions in Australia. In 1993–1994 total labour costs per employee were $18 560, while average earnings per employee were $16 883, reflecting the predominance of part-time and casual employment.

Small businesses make up the vast majority of the 28 500 business enterprises in this sector. The main occupations found in the sector are miscellaneous salespersons, food tradespersons and managing salespersons.

Employers in the accommodation, cafés and restaurants industry spent less on training their employees in 1996 than any other industry. Expenditure on structured training, as revealed in the Australian Bureau of Statistics (ABS) employer training expenditure survey for July to September 1996 was $54.51 per employee. Only 10% of employers in the sector provided training, again the lowest proportion of all industries.

In the survey on employer satisfaction with vocational education and training for 1997 (ESS), compiled by the National Centre for Vocational Education Research (NCVER), the accommodation, cafés and restaurants industry recorded the lowest rate of satisfaction with vocational education and training (VET) of all industry sectors.

In the technical and further education (TAFE) graduate destination survey for 1997 (GDS), also compiled by NCVER, 7% of employed graduates surveyed were working in the industry, similar to the 6.8% recorded in the 1995 survey. Graduates' perceptions of the relevance of their course were at the lower end of the scale, with almost 29% regarding their course as of little or no relevance to their employment.

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[1] Australian Bureau of Statistics (ABS), *Labour force, Australia*, cat 6203.0, November 1997

In interpreting these results it is important to keep in mind that, overall, persons employed full time were much more likely to rate their courses as relevant. Therefore, the low level of full-time employment in this sector might be a factor in this low rating, as almost half of the surveyed students in the industry were working part time. TAFE graduates working in this industry, who were not employed before the course (together with those in the education sector), were more likely to be working part time than those employed in any other industry.

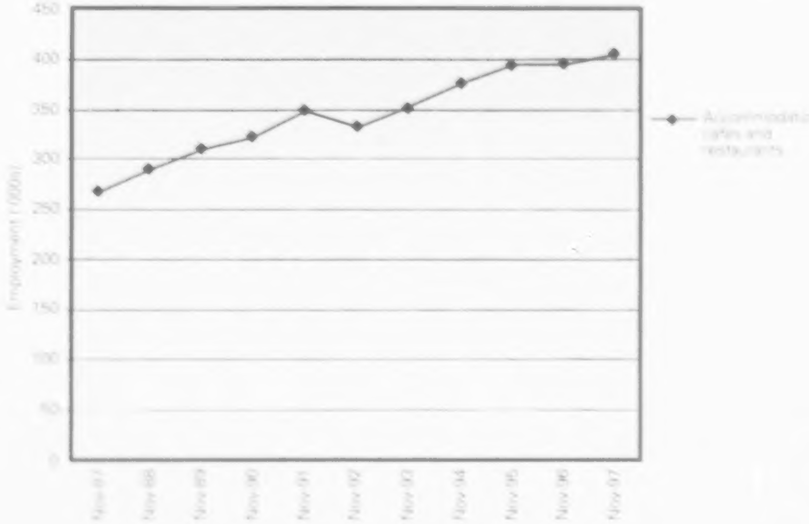
Most graduates surveyed had obtained a certificate (other), an Australian Qualification Framework (AQF) level II certificate, a trade certificate or an associate diploma. Of the graduates who were employed in the accommodation, cafés and restaurants industry during their final semester of study, 37% received some form of financial assistance from their employer, among the lowest levels of employer support out of all industry sectors for comparable graduates.

Apprenticeships and traineeships in the industry have grown strongly over the last three years to become the fifth largest industry employing apprentices and trainees.

Employment in the industry has, as noted above, grown strongly over the last decade. Despite the significance of Asia as a source of tourists to Australia and the current economic difficulties being experienced in a number of Asian countries, the long-term forecasts for visitor arrivals still show strong growth in total tourism although at lower rates than were being forecast a year ago.

Chart 8.1 shows the employment growth trend experienced by the industry over the period 1987 to 1997. It reveals that over that period the industry enjoyed almost continuous growth, rising from 266 700 persons employed in 1987 to 402 700 in November 1997.

Chart 8.1: Employment in accommodation, cafés and restaurants industry, Australia, 1987–1997 (ABS labour force survey)



Source: ABS, *Labour force: Australia*, cat.6203.0, 1987–1997

An industry snapshot

With about 400 000 employees, this industry represents about 4.5% of all employment in Australia. The accommodation, cafés and restaurants industry accounts for about 58% of the estimated 694 000 jobs in the unofficial 'tourism' sector.[2] In 1994–1995 there were 28 500 businesses in accommodation, cafés and restaurants across Australia, of which 25 400 were classified as small businesses. According to the Industry Commission, about 80% of establishments in the accommodation, cafés and restaurants industry in 1994 employed fewer than ten persons.

The tourism sector accounts for 7.4% of Australia's GDP, plus a further 4.3% of GDP indirectly. International tourism represents about 25% of the total tourism industry in Australia. In 1995–1996 expenditure derived from domestic tourism amounted to $41.9 billion, while an additional $4.6 billion was spent domestically by outbound tourists. International tourism generated export earnings of $16 billion in 1996–1997, or 13.7% of total Australian export earnings.

Forecasts of growth in the tourism industry indicate an expectation of annual growth in international tourism of between 3.6% and 6.1%, and domestic tourism growth of 1.9% per year. In 1996 half of the international tourists visiting Australia came from Asia, with the major source countries being Japan, Korea and Singapore. The large reductions in the value of Asian currencies over recent months will, without doubt, have an impact on the growth in tourism over the next few years. It is important, nevertheless, to keep in mind that the Asian market represents half of the international market, which, itself, is 25% of the total tourism industry.

The most pessimistic industry forecasts see the Asian currency crisis as slowing industry growth, not reversing this positive growth.[3] The impact of the decline in the growth in Asian tourism will not impact equally on a regional basis throughout Australia. Recent forecasts indicate that Western Australia is more likely to be adversely affected than elsewhere in Australia because of its greater reliance on Asian tourists from those Asian countries most adversely affected by the currency crisis.

Investment in hotels and motels in Australia has shown strong growth over the last five years. In 1992–1993 the value of work done in hotel and similar construction amounted to $272 million. By 1996–1997 this had risen to $997 million. This figure is forecast to rise to $1240 million in 1997–1998.

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[2] Readers seeking detailed information on the 'tourism' industry are referred to the Industry Commission final report *Tourism accommodation and training*, April 1996.

[3] Australian Office of National Tourism

Employment characteristics of the industry

The accommodation, cafés and restaurants industry is comprised of four areas:

i accommodation (hotels and motels)
ii pubs, taverns and bars
iii cafés and restaurants
iv clubs

Among these, the largest employment sector is cafés and restaurants.

Accommodation, cafés and restaurants is one of five industries in Australia in which females outnumber males. In this industry, females make up 53.7% of the workforce although males account for the majority, nearly 60%, of full-time workers. Part-time employment accounts for nearly 47% of the industry's jobs and females make up nearly 69% of all the part-time workers in the industry.

Table 8.1: Employment ('000s) in accommodation, cafés and restaurants by sub-sector, by gender and type of employment, Australia, November 1997

Industry sub-sector	Males	Females	Full-time	Part-time	Total
Accommodation	45.6	60.6	64.1	42.1	106.2
Pubs, taverns and bars	30.9	40.5	33.8	37.6	71.4
Cafés and restaurants	76.0	87.1	83.2	79.9	163.1
Clubs (hospitality)	33.8	28.2	33.2	28.8	62.0
Total	**186.3**	**216.4**	**214.3**	**188.4**	**402.7**

Source: ABS, *Labour force, Australia*, cat.6203.0, November 1997

As noted earlier, it has been estimated that the 'hospitality' industry, more or less analogous to accommodation, cafés and restaurants, is made up of about 50% of casual employment.

The industry is a relatively important employer of persons born overseas. In November 1997, 27.7% of the industry's workforce was overseas born compared to 24% of the total workforce across all industries.

Table 8.2: Employment ('000s) in accommodation, cafés and restaurants by State/Territory, 1995

	NSW	Vic	Qld	SA	WA	Tas	NT	ACT
Males	69.1	34.5	28.5	11.4	14.7	4.8	1.6*	4.4
Females	71.3	46.2	46.4	16.6	23.1	6.0	2.3*	5.0
Total	**140.5**	**80.7**	**74.8**	**28.0**	**37.8**	**10.8**	**3.9**	**9.4**

Note: *Subject to sampling variability too high for most practical uses

Source: ABS, *Labour force, Australia*, cat.6204.0, 1995

Jobs in this industry are distributed more or less in the same proportion as total employment in Australia, although New South Wales and, to a lesser extent, Queensland have an above-average share. Victoria has relatively fewer jobs in this sector than the other States and Territories.

Table 8.3: Share of employment in accommodation, cafés and restaurants by State, by share of total jobs, 1995

State	% employed in accommodation, cafés and restaurants	% employed in all industries
NSW	36.4	33.1
Vic	20.9	25.0
Qld	19.4	18.3
SA	7.3	8.0
WA	9.8	10.1
Tas	2.8	2.4
NT	1.0	1.0
ACT	2.4	2.0
Total	**100.0**	**100.0**

Source: ABS, *Labour force, Australia*, cat.6204.0, 1995

The accommodation, cafés and restaurants industry has many characteristics in common with the retail sector. These include relatively strong employment growth over recent years, a majority of females employed, low average earnings per employee, similar average hours worked per employee per week and high levels of part-time work. The following table summarises the age distribution of those working in the industry as at November 1997.

The industry's workforce is young, although not as skewed to the younger age groups as retailing. Whereas 18.4% of the total workforce is aged under 25, in accommodation, cafés and restaurants more than 35% of the workforce is aged under 25. The following table compares the age structure of the industry with the total workforce.

Table 8.4: Age distribution of accommodation, cafés and restaurant workers and all employed, Australia, November 1997

	Age group						Total
	15–19	20–24	25–34	35–44	45–54	55+	
Accommodation, cafés and restaurants %	13.1	22.2	22.0	20.9	14.1	7.8	100.0
All industry %	6.9	11.5	25.2	25.6	21.1	9.8	100.0

Source: ABS, *Labour force, Australia*, cat.6203.0, November 1997

Occupational composition

Some of the main occupations within the industry to have shown relatively strong growth over the last decade have been:

- *cooks*, currently numbering almost 70 000 across Australia and growing at an annual average of 3.7%
- *bar attendants*, numbering nearly 50 000 and growing at 3.4% a year
- *waiters and waitresses*, numbering about 83 000 and growing at 5.3% a year

In 1996 about 80% of those employed as waiters/waitresses and 54% of those working as bar attendants were females. A high proportion of employment in waiting is part time. In 1996 almost 73% of jobs in this occupation were part time, while 56% of bar attending jobs were part time.

The following table compares the occupational structure of the accommodation, cafés and restaurants industry with the workforce as a whole.

Table 8.5: Occupational profile, accommodation, cafés and restaurants and total workforce, Australia, November 1997

Occupation group	Accommodation, cafés and restaurants %	Total workforce %
Managers and administrators	1.0	7.6
Professionals	0.8	17.4
Associate professionals	25.1	10.5
Tradespersons and related	7.3	13.2
Advanced clerical and service	1.1	4.5
Intermediate clerical/sales/service	38.2	17.1
Intermediate production/transport	0.8	9.2
Elementary clerical/sales/service	6.3	10.5
Labourers and related	19.4	10.1
Total	**100.0**	**100.0**

Source: ABS, *Labour force, Australia*, cat.6203.0, November 1997

This sector shows some distinct characteristics in its occupational structure. Most striking are:

- a very low level of employment in the managerial and professional categories
- a correspondingly high level of employment in the 'associate professional' category, which suggests that in this sector, there is a high dependence on the VET sector for higher-level skills
- with almost two-thirds of its workforce in the associate professional and intermediate clerical/sales/service occupations, it is very surprising that this is the industry with the lowest average labour costs
- males outnumber females almost 2:1 in the associate professional category, while females outnumber males by about the same ratio in the intermediate clerical/sales/service occupation group, indicating quite high levels of occupational gender segregation

Qualifications profile

The following table shows the qualifications held by workers in the accommodation, cafés and restaurants industry as at May 1997.

Table 8.6: Qualifications of workers in accommodation, cafés and restaurants, percentage distribution, Australia, May 1997

	Bachelor's degree or higher	Diploma/ associate diploma	Skilled vocational	Basic vocational	Without post-school qual.
Accommodation, cafés and restaurants	6.4	8.9	8.3	9.6	63.4
Total industry	**17.2**	**9.0**	**12.6**	**9.4**	**49.4**

Source: ABS, *Transition from education to work*, cat.6227.0, May 1997

It is apparent from the above that the overall qualifications profile of the sector is well below the workforce average, with nearly two-thirds (63.4%) of the workforce lacking a post-school qualification. It is also noteworthy that despite the high proportion of the industry's workforce categorised as associate professionals, well above the proportion in the total workforce, this is not reflected in the qualifications held.

Only the agriculture, forestry and fishing industry has a higher proportion of its workforce (67.8%) without post-school qualifications than accommodation, cafés and restaurants.

Occupational trends and skills shortages

Over the decade between 1987 and 1996, total employment in the accommodation, cafés and restaurants sector grew by about 115 000 jobs or by 45%, making it the second fastest growing industry over that period, after property and business services. The following table shows the main occupations in the sector and their growth between 1987 and 1996.

Table 8.7: Employment growth ('000s) in selected occupations in accommodation, cafés and restaurants, Australia, 1987–1996

	Managing supervisors	Food trades	Amenity horticulture trades	Numerical clerks	Receptionists etc.	Sales assistants	Misc. sales	Cleaners	Labourers and related	Total employment
1987	40.9	31.6	4.1	4.5	7.2	9.2	79.5	23.3	33.8	256.9
1996	54.2	49.7	4.0	7.6	11.6	15.5	117.3	29.0	49.5	371.7
Change	**13.3**	**18.1**	**–1.0**	**3.1**	**4.4**	**6.3**	**37.8**	**5.7**	**15.7**	**114.8**

Source: ABS, *Labour force, Australia*, 1987, 1996

About two-thirds of all employers in the industry surveyed in the ESS in 1997 believed that there were sufficient VET graduates to meet current needs, while 28%, about the all-industry average, said there were not. The areas of shortage most commonly cited by those who believed there were skills shortages were in the sales and personal service category—predominantly waiters/waitresses and bar attendants.

Given the low wages paid in the sector and the high incidence of casual and part-time employment, it should not be assumed that these reported shortages are attributable to inadequate provision of training places. Shortages in the trades area was the only other significant category identified by those who believed shortages exist. The strong growth in the food trades area of 57%, almost entirely cooks and chefs, explains the frequent identification of this as an area of skills shortage. It is noteworthy that shortages were reported far more frequently in the lesser skilled occupations than in the trades area.

In the Industry Commission report cited earlier, the issue of shortages of chefs was addressed as an important issue for the industry. The commission reached the following conclusions:

> *The shortage of chefs is partly due to the increased demand from an expanding tourism industry and changing lifestyle patterns, with more people eating meals outside of the home. It is also due to the relatively large numbers of chefs leaving the industry because of demanding working conditions and low pay relative to other occupations.*
>
> *The tourism industry has experienced a shortage of chefs since the mid-1980s and probably longer. In the past, attempts have been made to address the shortage of chefs using both short-term and long-term strategies. These strategies have focussed on adding to the pool of chefs by training more apprentices and by importing chefs. The strategies have not focussed on the equally important need to reduce the number of trained people leaving the industry and for which the industry is primarily responsible.*
>
> *It is likely that a number of strategies will need to be combined to alleviate the shortage of chefs. On past experience, simply increasing the number of training places for apprentice cooks will not work. The solution lies with action to retain a higher proportion of trade-qualified cooks for longer periods; improved pay and conditions may assist. These changes are the responsibility of industry.*
>
> *One element of such a combined strategy that would require involvement from both the industry and government is the Group Training Scheme. The scheme is particularly suited to the training and retention of apprentice cooks; it exposes apprentices to the broad range of experiences that are necessary to succeed in their trade and there is some evidence that the scheme and its associated support network reduces the high rate of exits normally found among food trades apprentices.*[4]

In reporting to the Australian National Training Authority (ANTA) in 1997, the national industry training advisory body (ITAB) covering this industry, Tourism Training Australia, said:

> *The industry, through [Tourism Training Australia] TTA, has identified skill shortages in the following areas: managers, owners/operators (in all tourism and hospitality sectors)—there is a significant need within the industry for training in management and business skills. This is a long standing problem, due to many owners, operators and management staff entering the industry with little or no formal training. This area of training need is regarded as the highest priority.*

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[4] Industry Commission final report *Tourism accommodation and training*, April 1996, chapter 16

Hospitality—cooks/chefs de partie 3 and 4. There is a critical skills gap due to a long running cumulative shortage accentuated by high attrition rates. Supply and demand analysis suggests a significant shortfall, estimated to be approximately 1700 positions nationally.

Other areas of shortfall include: all tourism and hospitality frontline staff (customer service skills); managers, trainers and staff (language and cultural skills); managers and supervisors of food preparation 4 to 6 (food safety); and retail travel staff (corporate travel).

Hours of work and earnings

Jobs in the accommodation, cafés and restaurants industry are fairly evenly divided between full-time and part-time hours, with nearly 47% of jobs part time. This is the highest proportion of part-time employment of any industry in Australia. In overall terms, the sector has a reasonably close balance of employment between males and females. However, males predominate in full-time jobs and females in part time. Most females (almost 59%) in the industry work fewer than 30 hours per week, while nearly half (46%) of the males work 40 or more hours.

Table 8.8: Accommodation, cafés and restaurants employment, by sex and hours worked, Australia, November 1997

	Full-time ('000s)		Part-time ('000s)		Total ('000s)	
	No.	%	No.	%	No.	%
Males	127.9	59.7	58.5	31.0	186.3	46.3
Females	86.4	40.3	130.0	69.0	216.4	53.7
Total	**214.3**	**100.0**	**188.5**	**100.0**	**402.7**	**100.0**

Source: ABS, *Labour force, Australia*, cat.6203.0, 1997

Among full-time employees, male average weekly earnings for managerial workers (as at May 1996) were about $724 compared with female earnings in managerial jobs of $595. For non-managerial workers, adult male full-time weekly earnings were $563 compared with $496 for females. These were, respectively, the lowest rates across all industries for males and females.

It is noteworthy that earnings for TAFE graduates, as revealed in the 1997 TAFE GDS, showed very little variation between male and female earnings. Although there are some industries where, for females, gaining a TAFE qualification makes no impact on narrowing the earnings gap with males, in this industry female full-time TAFE graduates earned 95.3% of their male counterparts' income, one of the best results across all industry sectors. This result suggests that in this industry, VET provision is not contributing to occupational gender segregation as it appears to do in some other industries.

Training in accommodation, cafés and restaurants

The standard collection of training statistics used by national and State/Territory training bodies does not separately identify the accommodation, cafés and restaurants industry. It does, however, identify the tourism and hospitality sector which, as noted earlier, is a larger grouping that incorporates accommodation, cafés and restaurants.

In 1996 it is estimated that tourism and hospitality received around 6.7% of total government funding for VET, or 36 hours of government-funded training for each employed person in the industry. This was above the overall industry average of 27 hours per employed person.

In 1996 module enrolments in publicly funded vocational courses in hospitality, tourism and personal services amounted to just under 8.8% of all module enrolments, or just under 7% of all 'annual hours' of training delivered. This 'discipline group' is clearly not only focussed on the accommodation, cafés and restaurants industry. However, it is one of the main industry targets for that discipline group. Females accounted for 60% of these enrolments.

Employer satisfaction with VET

The low relevance score is, nevertheless, of concern when viewed together with the result from the ESS of 1997. That survey showed accommodation, cafés and restaurant employers to be less satisfied with VET provision than employers in any other sector. On a 10-point scale, their mean overall satisfaction score with VET (which includes TAFE and private providers) was 5.7. Although the results from this measure are open to debate, this result appears significantly below the other industry sectors, whose scores were clustered in the 6.5 to 7 range (mean for all industries was 6.7%), apart from mining which recorded a second lowest 6.1. Interestingly, employer satisfaction with TAFE provision, which constitutes part of the overall VET provision, was marginally higher at 5.9 (mean for all industries was 6.6%), although this was still the lowest rating among all industries.

While State differences are generally not significant when employer responses are analysed, it must be noted that the level of employer satisfaction with VET provision was markedly lower in New South Wales than in all other States and Territories. Employers in the accommodation, cafés and restaurants sector in New South Wales gave VET a mean satisfaction score of 4.8, bringing the national average down to the 5.7 figure. All other jurisdictions recorded scores of 6.2 or better.

Graduates who were working during the final semester of their course in the accommodation, cafés and restaurants industry were less likely to receive support in their studies from their employer than those in any other industry. Only 36.8% of these received any employer support for their studies, and this was most commonly paid or unpaid time off to attend classes. This compares to around 51% support for all industries.

VET graduates in accommodation, cafés and restaurants

The 1997 TAFE GDS found that, overall, 7% of 1996 TAFE graduates were employed in the accommodation, cafés and restaurants sector at the end of May 1997, a slight rise on the proportion employed in that industry at the 1995 survey. This made the sector the sixth largest destination by industry for TAFE graduates, out of the 17 industry sectors.

Graduates working in the sector rated their TAFE training relatively lowly on the 'relevance' scale. Of those responding to the survey, 68.5% rated their training as either highly relevant or of some relevance to their work, the third lowest rating among the 17 industry sectors. If only the 'highly relevant' category is counted, the rating moved several places up the scale, placing the sector eleventh out of 17. The overall rating of the quality of their course was, however, at about the same level as all graduates surveyed.

The single largest reason for undertaking their course of study was in order to get a job, with 31% of graduates giving this as their reason. The next most important motivator was to change jobs, with about 15% giving this as their main aim. Of those giving these as their main reasons for study, 76% said that they had either fully or partly achieved their objective.

Graduates working in the industry rated the course content as reflecting current industry practice at about the same level of all graduates, with about 73% scoring it 7 or more out of 10. They also gave a relatively high rating to their instructor's knowledge of the course content. Graduates working in the sector were also noticeably happier than most graduates surveyed about the provision of information about careers and jobs available, although still only 51% scored this 7 or more out 10, compared with all graduates surveyed, who gave only a 41% score.

Graduates gave a relatively low score to convenience of class times and venues, perhaps reflecting, in part, the difficult hours often worked in the industry. The most commonly completed qualifications for the surveyed graduates were: certificate (other), Australian Qualifications Framework (AQF) certificate II, a trade certificate or an associate diploma. The first two credentials were those which generally (i.e. across all industries) were more likely to be rated as not at all relevant.

The relatively low relevance score is probably related to the high proportion of graduates working in the industry who were working part time. At the time of the survey, almost half (49.7%) of the respondents working in accommodation, cafés and restaurants were working part time, the highest proportion working part time across all industries. Part-timers generally tended to rate their training as less relevant than those working full time, regardless of their industry.

Employment and earnings

Graduates working in the industry at the time of the survey were much more likely than the average graduate to have been unemployed at the time of graduation than were those working in most other industries. After graduation, however, they tended to find their job in the sector more quickly than did graduates working in other industries.

Graduates surveyed who were working in accommodation, cafés and restaurants recorded the lowest average weekly earnings of all graduates at $317. This low outcome was not only because of the high proportion working part time. Those working full time in the sector also recorded the lowest average weekly earnings of all industries at $436, just ahead of the next lowest, retailing, at $438. Male full-time workers averaged $448 a week while females averaged $427 per week.

This gap between male and female full-time earnings in this sector was relatively small. In all industries, full-time male earnings exceeded those of females. In some industries the gap was more than $150 per week, while in mining the difference was more than $300. Comparing part-time earnings is not possible as the actual hours worked were not available.

Apprenticeships and traineeships in accommodation, cafés and restaurants

This industry sector was the fifth largest source of apprenticeships in 1997, having shown strong growth from 1996. In 1997 there were 13 700 apprentices in the industry, up from 8800 in 1996 and only 5700 in 1995. Over the last decade the number of apprenticeships in the food trades has shown quite consistent growth, with over 16 000 apprenticeships in the occupations being in place in 1997.

The following table shows the number of food trade apprenticeships in Australia since 1987.

Table 8.9: Food trade apprentices in Australia, 1987–1997

1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
13 150	13 937	13 815	14 282	13 945	13 917	13 503	15 205	15 125	15 586	16 269

Source: NCVER, Australian training statistics, September 1997 data collection

Traineeships in accommodation, cafés and restaurants have also grown in recent years, although quantifying the actual number is difficult. Popular areas for traineeships include a range of hospitality-related occupations.

- The accommodation, cafés and restaurants industry appears to receive above-average government training support. However, the industry is the lowest spender on its own structured training.
- To reach the industry average for training expenditure, employers in this industry would almost need to double current training expenditure, or twice as many employers would need to provide training.
- The industry is characterised by high levels of part-time work, mainly done by women, with men grouped in the high-skill, full-time end of the industry.
- Employers are relatively dissatisfied with VET provision, although VET graduates in the industry are reasonably satisfied.

Employer support for training

The accommodation, cafés and restaurants industry accounted for 5.1% of all employers of VET graduates in the 1997 ESS. It was the industry most likely to have employed a graduate before they graduated. Of employers in the industry employing VET graduates, 66% had employed them before their graduation, compared with an average 57% of employers of all graduates.

This is a striking result when compared with the data from the GDS, showing this to be the industry offering the lowest level of employer support for students. In other words, accommodation, cafés and restaurants was more likely to employ students completing their final semester of VET studies than any other industry, but least likely to provide any support for their study.

The industry, according to the ESS, was still a relatively low user of traineeships, with only 13% of employers with employees who had undertaken a traineeship. This compared with an all-industry average of 18%. A moderately high proportion, 31%, of employers did employ persons who had completed an apprenticeship.

The ABS employer training expenditure survey for the September quarter 1996 revealed the accommodation, cafés and restaurants industry to have the lowest level of training expenditure on structured training per employee of all industries. Employers, on average, spent $54.51 per employee on training in the quarter, compared with an all-industry average of $185.49. The $54.51 actually meant that compared with three years earlier, the industry in 1996 was spending nearly $9 less per employee on training.

Over the same three-year period the actual hours spent by employers in the sector on training also declined from 2.89 hours per employee in 1993 to 2.40 hours in 1996. In 1996 the all-industry average was 4.91 hours per employee, again down from the 1993 figure of 5.5 hours.

Only 10% of employers in the industry provided training to their employees in 1996, again the lowest level of all industries, and down from 19.2% of employers providing training in 1993. Surprisingly, total training expenditure in unadjusted dollar terms was down only marginally from $18.5 million to $18.4 million over the three years. If the accommodation, cafés and restaurants industry were to spend the all-industry average of their gross wages and salaries on training, they would need almost to double their current level of expenditure, raising it from the $18.4 to about $35 million.

In terms of hours of training effort by the industry, most time was allocated to apprentice-related training, followed by training in the personal service/clerical/sales areas. The same pattern emerged when measured in dollars per employee.

Some training issues in accommodation, cafés and restaurants

- Given the high level of persons employed at the associate professional level, why is the VET sector not providing more training at this level?
- What measures can be taken to encourage higher levels of employer support for structured training in this industry, the lowest spending sector of all?
- To what extent does the low level of training expenditure restrict the growth capacity of Australia's international tourism market?
- Will the current low skill profile occupational structure remain?
- Is the current industry skill profile comparable with international best practice?
- Although the industry is the highest employer of graduates working before graduation, it is the lowest provider of study support. What policies can be developed to stimulate greater interest in the provision of pre-graduation support?
- Are New Apprenticeships likely to meet industry needs?
- How can better industry-specific training data be collected?
- Given the age distribution of employment in the sector, it is clearly not a vestibule industry like retailing. What specific strategies can be developed to address the training needs of what is currently the second lowest credentialled workforce across all industry sectors?
- Why do shortages of skilled cooks and chefs persist? Is it directly attributable to poor industry commitment to training? Or is it a result of sometimes challenging working conditions?
- Why do such large gender differences exist in this industry in pay rates? If it reflects substantial occupational segregation, as appears likely from this analysis, what equal employment opportunity (EEO) practices are being applied in the sector? Should training policies be used by governments to attempt to reduce gender inequities?

The national industry training advisory body (ITAB), Tourism Training Australia, raised the following training research and evaluation issues with ANTA in its industry training plan in 1997:

- *a longitudinal tracking study of graduates from tertiary tourism and hospitality programs*
- *cooks' training applied research program*
- *a survey of the employment of Japanese-speaking staff*
- *a survey of caravan park operators Australia wide*
- *research into work experience requirements of VET programs*
- *a training needs analysis in regional areas of Australia*

Notes

The following table is extracted from the ANTA resource allocations for 1997 document, available at their website. It shows the planned allocations of government-funded training between the ANTA-defined 'training areas' in terms of 'annual hours curriculum' (ACH).

Table A8.1: **Key national shifts in activity between 1996 revised estimates and 1997 projected activity (ACH '000s)**

Industry training area	1996 revised	1997 projected	Total increase	Total increase as % of 1996 revised	% of overall increase
Category A					
Arts, Entert, Sports and Rec	11 408	11 928	520	4.6	5.5
Automotive	8 221	8 576	355	4.3	3.7
Building and Construction	18 785	19 009	224	1.2	2.4
Comm Services, Health and Ed	20 910	22 382	1 471	7.0	15.5
Finance, Banking and Insurance	3 420	3 468	48	1.4	0.5
Food Processing	2 454	2 851	396	16.1	4.2
TCF and Furnishings	5 714	5 813	100	1.7	1.0
Communications	1 883	1 963	80	4.3	0.8
Engineering and Mining	15 654	16 607	952	6.1	10.0
Primary Industry	11 874	12 217	343	2.9	3.6
Process Manufacturing	397	479	82	20.6	0.9
Sales and Personal Service	6 527	6 752	225	3.4	2.4
Tourism and Hospitality	16 707	18 151	1 444	8.6	15.2
Transport and Storage	1 686	1 851	164	9.8	1.7
Utilities	11 898	12 145	247	2.1	2.6
Category B					
Business and Clerical	42 412	43 117	705	1.7	7.4
Computing	11 969	12 641	672	5.6	7.1
Science, Technical and Other	6 727	6 870	143	2.1	1.5
Category C					
Gen Education and Training	40 046	41 212	1 166	2.9	12.3
Unallocated	622	779	157	25.2	1.6
Total	**239 316**	**248 810**	**9 494**	**4.0**	**100.0**

Note: TCF – textiles, clothing and footwear

Source: Publications, *ANTA Resource Allocations 1997*, <www.anta.gov.au>

Table A8.2: Employed persons by occupation in accommodation, cafés and restaurants industry, 1987 and 1996

Occupation (ASCO 4-digit)	1987	1996	Change 1987 to 1996	
				Average annual
	('000s)	('000s)	('000s)	%
1503 Restaurant and catering managing supervisors	15.1	18.4	3.3	2.3
1505 Accommodation and tavern managing supervisors	19.7	26.3	6.6	3.4
1599 Other managing supervisors (sales and service)	3.7	6.4	2.7	6.5
4705 Cooks	31.2	47.5	16.3	4.9
5301 Accounting clerks	4.4	7.3	2.9	6.0
5601 Receptionists and information clerks	7.0	10.3	3.3	4.5
6301 Sales assistants	9.2	15.5	6.3	6.1
6503 Bar attendants	34.9	45.3	10.4	3.0
6505 Waiters and waitresses	44.2	71.1	26.9	5.6
8301 Cleaners	23.3	29.0	5.7	2.5
8919 Kitchenhands	23.5	35.3	11.8	4.8
8999 Other labourers and related workers	2.8	4.2	1.4	4.7
Other occupations	37.9	55.1	17.2	4.4
Total all occupations	**256.9**	**371.7**	**114.8**	**4.3**

Note: As estimates of less than 3500 are subject to high statistical error, they are listed against specific occupations only where there was a higher estimate in either 1987 or 1996. Where estimates of less than 3500 were recorded for both 1987 and 1996, they are included in the 'other occupations' category

Australian Standard Classification of Occupations (ASCO)

Source: ABS labour force survey, unpublished data

Table A8.3: Educational attainment of employed persons by industry, occupation (1-digit ASCO) and type of post-school qualification at 1996 Census

Accommodation, cafés and restaurants ASCO code and occupation	**Bachelor degree or higher**	**Undergraduate diploma**	**Associate diploma**	**Skilled vocational qualification**	**Basic vocational qualification**	**With qualifications**	**Inadequately described or not stated**	**Not applicable (No quals.)**	**Total**
1 Managers and Administrators	1 546	548	477	976	301	3 848	656	3 993	8 497
2 Professionals	2 942	557	456	451	260	4 666	487	2 829	7 982
3 Associate Professionals	5 948	3 745	2 802	20 584	2 801	35 880	6 587	44 809	87 276
4 Tradespersons and Related Workers	655	378	530	6 719	792	9 074	1 958	19 766	30 798
5 Advanced Clerical and Service Workers	271	209	236	127	418	1 261	577	2 887	4 725
6 Intermediate Clerical, Sales and Service Workers	6 886	3 046	5 127	6 025	5 245	26 129	8 972	87 175	122 476
7 Intermediate Production and Transport Workers	222	90	121	620	158	1 211	363	3 900	5 474
8 Elementary Clerical, Sales and Service Workers	1 139	493	710	1 398	800	4 540	1 788	18 096	24 424
9 Labourers and Related Workers	1 888	759	1 010	3 296	1 391	8 344	4 693	46 915	59 952
0 Inadequately described	84	55	75	289	49	552	225	1 162	1 939
Not stated	63	25	16	119	24	247	302	1 195	1 744
Not applicable	–	–	–	–	–	–	–	–	–
Total	**21 644**	**9 905**	**11 560**	**40 604**	**12 239**	**95 952**	**26 608**	**232 727**	**355 287**

Source: ABS, 1996 Census of population and housing

Table A8.4: Educational attainment of employed persons by industry, occupation (3-digit ASCO) and type of post-school qualification at 1996 Census

Accommodation, cafés and restaurants

ASCO code and occupation	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
100 Managers and Administrators nfd	259	135	91	368	74	927	238	1510	2 675
110 Generalist Managers nfd	0	0	0	0	0	0	0	0	0
111 General Managers and Administrators	231	107	78	181	54	651	118	560	1 329
119 Miscellaneous Generalist Managers	19	7	10	94	5	135	19	82	236
120 Specialist Managers nfd	30	9	8	13	7	67	9	40	116
121 Resource Managers	480	102	140	69	54	845	97	635	1 577
122 Engineering, Distribution and Process Managers	81	37	38	80	25	261	44	272	577
123 Sales and Marketing Managers	237	90	69	67	52	515	74	496	1 085
129 Miscellaneous Specialist Managers	194	39	30	69	24	356	40	267	663
131 Farmers and Farm Managers	18	22	13	35	6	94	17	131	242
200 Professionals nfd	93	4	9	7	5	118	11	50	179
210 Science, Building and Engineering Professionals nfd	0	0	0	0	0	0	0	0	0
211 Natural and Physical Science Professionals	79	3	7	4	3	96	9	22	127
212 Building and Engineering Professionals	66	12	24	99	4	205	8	29	242
220 Business and Information Professionals nfd	0	3	3	0	0	6	0	6	12
221 Accountants, Auditors and Corporate Treasurers	495	63	138	19	24	739	75	304	1 118
222 Sales, Marketing and Advertising Professionals	146	38	33	40	40	297	54	391	742
223 Computing Professionals	109	15	21	6	11	162	14	89	265
229 Miscellaneous Business and Information Profs	211	50	55	46	37	399	50	319	768
230 Health Professionals nfd	0	0	0	0	0	0	0	0	0
231 Medical Practitioners	36	3	0	0	0	39	0	4	43
232 Nursing Professionals	111	137	4	3	27	282	31	26	339
238 Miscellaneous Health Professionals	52	10	5	0	3	70	4	11	85

Accommodation, cafés and restaurants	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
240 Education Professionals nfd	3	0	0	0	0	3	0	3	6
241 School Teachers	309	29	19	5	3	365	9	51	425
242 University and Vocational Education Teachers	706	29	6	19	5	765	19	104	888
249 Miscellaneous Education Professionals	74	15	7	5	6	107	14	75	196
250 Social, Arts and Miscellaneous Professionals nfd	0	0	0	0	0	0	0	0	0
251 Social Welfare Professionals	124	21	34	8	16	203	23	104	330
252 Miscellaneous Social Professionals	53	0	4	3	3	63	4	16	83
253 Artists and Related Professionals	186	89	68	140	50	533	127	1 097	1 757
254 Miscellaneous Professionals	85	35	20	45	29	214	33	130	377
300 Associate Professionals nfd	38	31	32	60	23	184	36	202	422
310 Science/Engineering and Related Assoc Profs nfd	10	0	6	11	3	30	0	5	35
311 Medical and Science Technical Officers	19	5	9	27	16	76	10	46	132
312 Building/Engineering Associate Professionals	15	4	24	81	5	129	7	36	172
320 Business and Administrative Assoc Profs nfd	0	0	0	0	0	0	0	3	3
321 Finance Associate Professionals	34	3	12	6	9	64	5	66	135
329 Miscellaneous Business/Admin Assoc Profs	490	269	273	417	240	1 689	419	2 463	4 571
330 Managing Supervisors (Sales and Service) nfd	27	26	10	92	18	173	33	202	408
331 Shop Managers	428	232	163	680	173	1 676	505	4 311	6 492
332 Hospitality and Accommodation Managers	4 500	3 006	2 123	18 777	2 158	30 564	5 315	35 375	71 254
339 Miscellaneous Mngr. Supervisors (Sales and Service)	171	93	62	242	76	644	145	1 105	1 894
340 Health and Welfare Assoc Professionals nfd	0	0	0	0	0	0	0	0	0
341 Enrolled Nurses	4	6	3	0	32	45	9	8	62
342 Welfare Associate Professionals	62	18	39	12	16	147	15	88	250

Accommodation, cafés and restaurants	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
349 Miscellaneous Health and Welfare Associate Profs	6	8	7	8	3	32	8	14	54
390 Other Associate Professionals nfd	0	0	0	0	0	0	0	0	0
391 Police Officers	0	0	0	0	0	0	0	0	0
399 Miscellaneous Associate Professionals	143	43	39	168	30	423	78	883	1 384
400 Tradespersons and Related Workers nfd	9	6	10	127	11	163	25	190	378
410 Mechanical/Fabrication Engineering Trades nfd	0	0	0	0	0	0	0	0	0
411 Mechanical Engineering Tradespersons	6	6	13	212	5	242	15	56	313
412 Fabrication Engineering Tradespersons	0	0	0	38	0	38	8	28	74
421 Automotive Tradespersons	0	3	9	185	7	204	12	44	260
431 Electrical and Electronics Trades	14	8	19	386	7	434	42	116	592
440 Construction Tradespersons nfd	0	0	0	3	0	3	0	0	3
441 Structural Construction Trades	6	5	10	369	4	394	35	124	553
442 Final Finishes Construction Trades	9	4	3	194	8	218	34	132	384
443 Plumbers	3	0	0	99	0	102	5	14	121
451 Food Tradespersons	529	263	358	2 844	497	4 491	1 454	16 099	22 044
460 Skilled Agricultural/Horticultural Workers nfd	0	0	0	0	0	0	0	0	0
461 Skilled Agricultural Workers	0	0	0	0	3	3	3	10	16
462 Horticultural Tradespersons	56	60	91	2 102	219	2 528	280	2 648	5 456
490 Other Tradespersons and Related Workers nfd	0	0	0	0	3	3	3	0	6
491 Printing Tradespersons	3	0	0	15	3	21	4	24	49
492 Wood Tradespersons	0	0	0	19	0	19	4	11	34
493 Hairdressers	0	3	0	40	3	46	3	23	72
494 Textile, Clothing and Related Trades	0	7	3	14	4	28	13	78	119
498 Miscellaneous Tradespersons and Related Wkrs	22	12	9	71	22	136	19	166	321
500 Advanced Clerical and Service Workers nfd	0	0	0	0	0	0	0	3	3
511 Secretaries and Personal Assistants	135	132	119	70	323	779	411	1 638	2 828

Accommodation, cafés and restaurants	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
590 Other Advanced Clerical and Service Wkrs nfd	0	0	0	0	0	0	0	0	0
591 Advanced Numerical Clerks	122	67	108	30	82	409	145	1 117	1 671
599 Miscellaneous Advanced Clerical and Service Wkrs	19	10	9	27	13	78	21	131	230
600 Intermediate Clerical, Sales and Service Wkrs nfd	31	14	29	24	33	131	50	437	618
610 Intermediate Clerical Workers nfd	0	0	0	0	0	0	0	3	3
611 General Clerks	131	55	80	54	120	440	198	1 671	2 309
612 Keyboard Operators	29	27	25	9	62	152	57	356	565
613 Receptionists	485	420	562	314	539	2 320	644	4 745	7 709
614 Intermediate Numerical Clerks	168	56	117	36	87	464	141	1 025	1 630
615 Material Record and Despatch Clerks	48	36	35	71	37	227	53	551	831
619 Miscellaneous Intermediate Clerical Workers	66	19	28	28	27	168	41	290	499
621 Intermediate Sales and Related Workers	173	73	82	95	61	484	95	722	1 301
630 Intermediate Service Workers nfd	53	17	32	47	17	166	78	443	687
631 Carers and Aides	101	53	63	75	51	343	97	738	1 178
632 Hospitality Workers	5 444	2 196	3 996	5 129	4 111	20 876	7 366	75 302	103 544
639 Miscellaneous Intermediate Service Workers	159	80	78	142	99	558	152	892	1 602
700 Intermediate Production and Transport Wkrs nfd	0	0	0	4	0	4	3	40	47
710 Intermediate Plant Operators nfd	0	0	0	3	0	3	0	22	25
711 Mobile Plant Operators	8	6	0	41	7	62	10	141	213
712 Intermediate Stationary Plant Operators	34	6	15	76	15	146	17	135	298
720 Intermediate Machine Operators nfd	13	8	3	37	7	68	33	211	312
721 Intermediate Textile/Clothing/Related Mach Ops	6	0	0	8	3	17	3	69	89

Accommodation, cafés and restaurants	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
729 Miscellaneous Intermediate Machine Operators	0	0	0	4	0	4	3	23	30
731 Road and Rail Transport Drivers	112	38	56	193	64	463	158	1 934	2 555
790 Other Intermediate Prod'n and T'port Wkrs nfd	0	0	0	0	0	0	0	3	3
791 Intermediate Mining and Construction Workers	0	0	0	5	3	8	6	19	33
799 Misc Intermediate Prod'n and Transport Wkrs	39	28	45	249	56	417	130	1 303	1 850
800 Elementary Clerical, Sales and Service Wkrs nfd	6	3	8	8	8	33	16	160	209
811 Elementary Clerks	38	31	58	34	53	214	80	811	1 105
820 Elementary Sales Workers nfd	5	0	0	3	4	12	10	102	124
821 Sales Assistants	497	185	269	512	371	1 834	889	10 030	12 753
829 Miscellaneous Elementary Sales Workers	200	98	167	142	139	746	258	2 559	3 563
831 Elementary Service Workers	392	175	207	700	225	1 699	535	4 434	6 668
900 Labourers and Related Workers nfd	14	8	14	57	14	107	54	617	778
911 Cleaners	745	349	392	1 192	627	3 305	2 097	20 421	25 823
920 Factory Labourers nfd	0	0	0	0	0	0	0	3	3
921 Process Workers	12	5	10	37	7	71	28	258	357
922 Product Packagers	5	3	4	20	7	39	21	195	255
990 Other Labourers and Related Workers nfd	0	0	0	3	3	6	3	20	29
991 Mining, Construction and Related Labourers	3	0	3	26	0	32	10	87	129
992 Agricultural and Horticultural Labourers	8	6	5	71	16	106	18	259	383
993 Elementary Food Preparation and Related Wkrs	982	326	457	1 155	607	3 527	2 161	22 311	27 999
999 Miscellaneous Labourers and Related Workers	117	61	125	735	111	1 149	302	2 746	4 197

Accommodation, cafés and restaurants	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
099 Inadequately described	84	55	75	289	49	552	225	1 162	1 939
Not stated	63	25	16	119	24	247	302	1 195	1 744
Not applicable	–	–	–	–	–	–	–	–	–
Total	**21 638**	**9 896**	**11 553**	**40 598**	**12 247**	**95 932**	**26 606**	**232 728**	**355 266**

Note: ntd – not further defined

Source: ABS, 1996 Census of population and housing

9 Transport and storage

THE TRANSPORT AND storage industry is a diverse sector that covers all forms of transport operation, including road, rail, air and sea, as well as related services to transport such as stevedoring, port operations, customs agencies and travel agencies. In this regard it is closely related both to the 'tourist industry', which is not an official category under the Australian Bureau of Statistics (ABS) classification system, and to the broader operation of the Australian economy in its role of moving and storing raw commodities and finished goods.

Employment in the industry has not grown as quickly over the last decade as has employment in general, growing by less than 4.5% over the ten years to November 1997, compared with about 13.5% for total employment. The industry's employment has been affected by economic fluctuations in the Australian and world economy over the last decade and has fluctuated in line with these movements.

The various sectors making up the industry have shown different employment movements over the decade. These are shown in chart 9.1 and in table A9.2 in the notes at the end of this chapter. In brief, the government-owned rail sector has been subject to substantial job losses under pressure of competition from competing transport sectors.

Nevertheless, over the 1990s the transport and storage industry has increased its gross product more rapidly than the total economy, indicating that productivity has risen in the industry in recent years. This might reflect the substantial change that has occurred in the industry's composition over the decade, with very strong growth in employment in air and water transport, offset by more than a 40% decline in rail transport employment.

It is unlikely that the industry will sustain significant employment growth in those areas related to international tourism over the next two to three years, given the reduction in tourist numbers from Asia. Some growth will occur, however, as a result of continuing domestic growth both in tourism and in the other sectors of the economy related to transport and storage. The final impact of the recent waterfront dispute on stevedoring employment is still unknown.

The industry is characterised by male, full-time employment. About 77% of the workers in the industry are males and around 87% of the jobs are full time. The workers in the industry are somewhat older than those in the whole workforce and average weekly hours worked in the industry are relatively high.

The industry is not distributed on a geographical basis in the same proportion as the total workforce, with greater concentrations of employment in Queensland, New South Wales and Tasmania. The industry employs a slightly above-average proportion of workers born overseas.

The occupational composition of the sector varies substantially from the overall pattern of the Australian labour force. A relatively small proportion of the industry's workforce are classified in the professional, associate professional and trades categories while the bulk of workers, 46%, are classified under the intermediate production and transport occupational group. This includes the largest full-time occupation category for males in Australia, truck driver, which accounts for 170 000 male full-time jobs, as well as the large storepersons occupation, which includes over 73 000 persons.

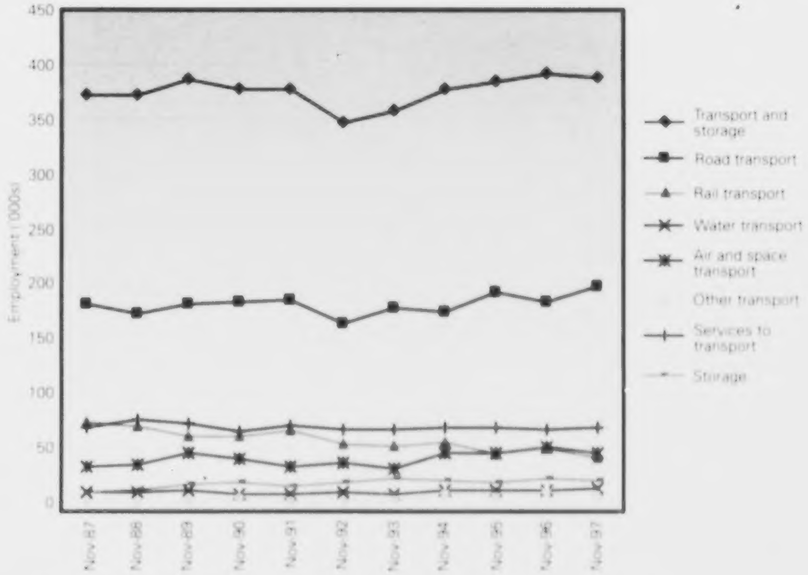
The industry has a high proportion of workers without any post-school qualifications and a low share of workers with university or higher-level vocational education and training (VET) credentials. Despite having a relatively low share of trade-level occupations, there is an above-average share of workers with trades qualifications. This suggests that some tradespersons who leave their trade move into this industry, perhaps using their trade skills in the maintenance of vehicles.

The industry appears to receive only a small level of direct government funding for the provision of VET. In terms of government-funded hours of VET per employee in the industry, it receives the lowest level of funding of all industry training areas.

In the survey on employer satisfaction with VET for 1997 (ESS), compiled by the National Centre for Vocational Education Research (NCVER), employers in the industry rated the provision of VET the third lowest overall satisfaction rating of all industries in Australia. In the technical and further education (TAFE) graduate destination survey for 1997 (GDS), also compiled by NCVER, VET graduates working in the sector were not as critical, giving satisfaction scores that were close to average for graduates employed. Both employers and graduates identified the need to improve the balance between theory and practice in the courses leading to employment in the transport and storage industry as a priority. Graduates also identified problems with the provision of appropriate equipment for practising skills and inadequate provision of information on jobs and careers. Employers identified a need for improvement in the work ethic of graduates.

The air transport sector stands out as one of the industry sectors providing high levels of structured training for its employees. While the other parts of the transport and storage industry provided average levels of structured training, air transport spent about three times the all-industry average in training their employees and provided about 2.5 times the number of training hours per employee.

Chart 9.1: Employment trends in transport and storage, by sub-division, November 1987–November 1997 (ABS labour force survey)



Source: ABS, *Labour force, Australia*, cat.6203.0, 1997

An industry snapshot

The Australian transport and storage industry covers activities in road, rail, air, and water and sea transport. It also includes a range of associated services such as storage, stevedoring and port operations, travel agencies, customs agency services, parking services, taxis and pipeline transport.

With 389 000 persons employed across the range of the above activities (ABS, *Labour force, Australia*, cat.6203.0, November 1997), the industry represents just over 4.5% of total jobs in Australia. In 1995–1996 the industry's gross product represented about 6% of total Australian gross product. Over the 1990s, gross product in this sector has grown more rapidly than total gross domestic product (GDP). Using ABS data for the 1994–1995 year, there were 45 500 businesses classified in the transport and storage industry, with 44 100 of them classified as small businesses.

There is great diversity of ownership types within the broad industry grouping and considerable government involvement in the industry through market regulation and service provision in the case of rail transport. Almost 16% of the workers in the industry are classified as either owners of businesses or as own-account workers, rather than as employees, a little above the 14% of all workers across all industries classified in these categories.

The industry is strongly male dominated with over 77% of all workers males. Nearly 87% of the jobs in the industry are full time, compared with 74% across all industries. In these features the industry is similar to manufacturing, wholesale, construction, and communication services. The ABS divides the transport and storage industry into seven sub-divisions. As the following table shows, the road transport sub-division is by far the largest area of employment.

Table 9.1: Employment ('000s) in transport and storage by sub-division, by gender and type of employment, Australia, November 1997

Industry sub-division	Males	Females	Full-time	Part-time	Total
Road transport	169.4	27.5	170.4	26.6	197.0
Rail transport	37.1	4.6	41.4	0.2*	41.6
Water transport	9.2	2.9*	10.1	2.0*	12.1
Air and space transport	29.7	16.0	38.5	7.1	45.6
Other transport	4.1	2.2*	5.2	1.1*	6.3
Services to transport	37.1	30.3	55.7	11.6	67.3
Storage	14.7	4.4	17.1	2.0*	19.0
Total	**301.2**	**87.8**	**338.3**	**50.6**	**389.0**

Note: *Subject to sampling variability too high for most practical uses

Source: ABS, *Labour force, Australia*, cat.6203.0, November 1997

Chart 9.1 shows the changes in employment levels in the industry that have occurred over the last 10 years. Overall, the level of employment has grown little over the last decade, rising by 4.2% between 1987 and 1997. The sub-divisions within the industry have shown varying trends in their employment over this time.

Employment in rail transport has fallen sharply over recent years. Other than the services to transport sector, which has remained relatively unchanged, all other areas of transport and storage have risen over the decade. Table A9.3 in the notes at the end of this chapter provides details of actual employment levels from November 1987.

Rail transport

Almost all rail operations in Australia are government owned. Employment in the rail transport sector has fallen dramatically, from a level of about 74 000 jobs in 1987 to 41 600 in 1997, a fall of more than 40%. In 1987, rail transport accounted for just under 20% of all transport and storage sector jobs. By 1997 it represented just over 10%.

Rail is still, nevertheless, an important part of the nation's transport infrastructure. It carries about 40% of all interstate freight in Australia. In 1995–1996 there were more than 445 000 000 passenger journeys on Australian railways, up by about 3% on the previous year. New South Wales has by far the largest rail system in terms of passenger journeys, accounting for 58% of all Australian passenger journeys in 1995–1996.

Australian transport ministers have reached agreements over the greater integration of the Australian rail systems, which have mainly been operated as discrete entities by State governments. The longer-term aim of these agreements is to allow faster, more efficient rail services, operating under uniform conditions across State boundaries.

Air transport

The air transport sector in Australia is comprised of general aviation, regional airlines, and domestic and international airlines. Over the last decade the industry has grown by 12 500 positions or by over 40%, providing the second largest number of new jobs out of the sub-divisions within this industry. Only the road transport sector has grown faster. Continuation of this rate of growth is unlikely over the medium term.

General aviation is non-scheduled activity, such as agricultural spraying, recreational use of all aircraft, medical services, training, aerial surveying, charter flights and search and rescue operations. Over the decade to 1994–1995, total hours flown in general aviation rose by over 7%, with the main growth components of this activity in the charter and training areas. Private, business and agricultural hours flown declined over that decade.

Regional airlines are those services that operate regular scheduled flights between lower demand centres and major regional centres, such as Sydney-Belmont and Melbourne-Devonport. Regional airlines are defined as those airlines with fleets having 38 seats or less per plane.

The distinction between domestic airlines and Australian international airlines has disappeared with the introduction of international flights by Ansett and the merger of Australian Airlines and QANTAS into the one company. The main Australian domestic routes in 1995 were Sydney-Melbourne (4.6 million passengers a year), Sydney-Brisbane (3.03 million passengers) and Sydney-Coolangatta (1.34 million passengers).

In 1995, over 12 million trips into and out of Australia occurred on international airlines. The most common routes were between Australia and New Zealand, Japan, Singapore and the United States of America. In 1996 the number of trips rose to over 13.3 million. Almost half of all international passengers passed through Sydney airport. Melbourne and Brisbane both accounted for about 14% each, with the next two busiest international terminals being Perth and Cairns.

Between 1994 and 1996, activity at Sydney international airport rose by 21.5%, at Brisbane by 30%, and at Melbourne by 17%. Several Australian international airports saw a drop off in business over the period, including Adelaide, Norfolk Island and Hobart.

The recent Asian financial crisis appears to have slowed down the inbound tourist market from what had been, up to mid-1997, the fastest growing component of that market. Major growth markets had been Indonesia, Malaysia, Korea and Thailand. The Tourism Forecasting Council has developed three possible scenarios for tourism growth over the next nine years. The middle scenario would see tourism growth from Asia averaging around 5% per year up to 2006, well below the 20–30% range experienced in the mid-1990s for the non-Japan part of Asia.

Road transport

Road transport is by far the largest element of the transport and storage industry with almost 200 000 workers in the sector. The sector includes interstate road transport of goods, coach operations, taxis, buses, trams and furniture removals. (Courier services, however, are included in communication services.)

Employment levels have shown several marked fluctuations over the last decade, dipping in 1988 and again more deeply in 1992. Total employment, however, has grown by more than 9% over the last decade, providing the largest number of new jobs within the transport industry out of all the sub-divisions.

Australia has an extensive road system with low-average density of usage compared with other geographically large countries. About half of all road travel is for purposes other than private use. There are about 500 000 heavy transport vehicles in Australia. Over two-thirds of non-bulk commodities transported in Australia are carried by road transport, and most of this occurs on about 20% of the road system.

Sea transport

The sea transport sub-division has experienced a strong growth rate over the last decade although, as table 9.1 shows, it is the second smallest sub-division within the industry, employing just over 12 000 persons. In 1996 Australia had a trading fleet of 82 vessels exceeding 150 gross tonnes, with only seven of these registered overseas. The sea transport sector is divided between coastal trade with 42 vessels, overseas trade, 25 vessels and 15 other vessels.

The major commodities exported by sea from Australia are iron ore and coking coal which, together, make up more than two-thirds of total commodity exports by weight. Australia exports, by weight, over 370 million tonnes and imports over 47 million tonnes of commodities each year, mainly as bulk commodities in tankers and gas carriers. The main export ports in Australia for bulk commodities are Dampier, Port Hedland and Newcastle, while for non-bulk products they are Melbourne, Sydney/Port Botany, Brisbane and Fremantle.

Services to transport and other transport

This sub-division includes the transport-related activities of stevedoring, port operations, parking stations, road freight forwarding, customs agencies and travel agencies, together with pipeline transport and other transport not included elsewhere. Combined, these areas have grown only marginally over the last decade, with all the growth occurring in the very small 'other transport' sector, probably reflecting the development of natural gas pipelines.

Storage

This sector covers the important area of grain storage and other storage, such as the growing market for temporary storage of domestic goods. Employment in the sub-division has grown very strongly over the last decade, more than doubling its numbers from under 9000 in 1987 to about 19 000 in 1997.

Employment characteristics of the industry

Most jobs in this industry are located in New South Wales, Queensland and Victoria as shown in table 9.2. Table 9.3 shows the relative shares of jobs in transport and storage compared with total employment. It shows that Queensland, in particular, and New South Wales and the Northern Territory, to a lesser extent, have a disproportionate share of jobs in this industry, while all the other States have a lower-than-average share of jobs in this sector.

Table 9.2: Employment ('000s) in transport and storage by State/Territory, 1995

	NSW	Vic	Qld	SA	WA	Tas	NT	ACT
Males	101.1	70.0	68.2	23.1	28.1	6.2	2.5*	2.8*
Females	27.4	15.2	19.2	4.3	6.2	1.4*	1.6*	1.2*
Total	**128.5**	**85.2**	**87.4**	**27.4**	**34.4**	**7.6**	**4.2**	**4.0**

Note: Some totals are not sum of components due to rounding

*Subject to sampling variability too high for most practical uses

Source: ABS, *Labour force, Australia*, cat.6204.0, 1995

Table 9.3: Share of employment in transport and storage by State, by share of total jobs, 1995

State	Share of jobs in transport and storage industry	% employed in all industries
NSW	34.0	33.1
Vic	22.5	24.7
Qld	23.1	18.3
SA	7.2	8.0
WA	9.1	10.1
Tas	2.0	2.4
NT	1.1	1.0
ACT	1.1	2.0
Total	**100.0**	**100.0**

Source: ABS, *Labour force, Australia*, cat.6204.0, 1995

The industry has an older workforce than the Australian labour force as a whole. Only about 10% of workers in the industry are aged under 25, compared with 18.4% overall. Nearly 35% of the industry's workers are aged over 45, compared with fewer than 31% for the total labour force. A slightly greater proportion of workers in the transport and storage industry were born overseas, 25.1%, than for the total labour force, 24%.

- The transport and storage industry is growing relatively slowly but is marked by rapid change in its component sub-divisions, with strong employment growth occurring in air and sea transport and in storage.
- It is an industry characterised by older, male, full-time employment, and relatively long weekly working hours.
- The industry is more concentrated in Queensland, New South Wales and the Northern Territory.
- Employment levels in the industry have fluctuated under the influence of both changing levels of tourism and the general level of domestic economic activity.
- The Asian financial crisis is likely to slow down growth in the tourism-related parts of the industry.

Occupational composition

The following table shows the broad occupational groups within the transport and storage industry, and compares their percentage share with the total workforce.

Table 9.4: Occupational profile, transport and storage industry and total workforce, Australia, November 1997

Occupation group	Transport and storage %	Total workforce %
Managers and administrators	3.9	7.6
Professionals	6.8	17.4
Associate professionals	5.4	10.5
Tradespersons and related	4.9	13.2
Advanced clerical and service	6.1	4.5
Intermediate clerical/sales/service	17.2	17.1
Intermediate production/transport	46.3	9.2
Elementary clerical/sales/service	5.3	10.5
Labourers and related	4.2	10.1
Total	**100.0**	**100.0**

Source: ABS, *Labour force, Australia*, cat.6203.0, November 1997

From table 9.4 it is apparent that the occupational composition of the industry varies markedly from the pattern applying to the workforce as a whole. As might be expected, almost half the workers in this sector are classified in the intermediate production and transport group of occupations. This group includes road, bus, tram, taxi and rail drivers and storepersons.

Only 10.7% of the industry are people classified as managers or professionals, compared with 25% for the overall workforce. Associate professionals and tradespersons make up only a further 10.3% of the transport and storage labour force compared with 23.7% across the total workforce.

The qualifications profile of the industry, shown in table 9.5 reflects, to a degree, the occupational structure described above. The proportion of workers in the industry without formal post-school qualifications is the third highest in Australia, behind agriculture, and accommodation, cafés and restaurants.

In line with low proportions of professional and associate professional jobs, there are relatively few university graduates or graduates with higher-level VET qualifications in transport and storage than in the workforce as a whole.

Table 9.5: Qualifications of transport and storage industry workers, percentage distribution, Australia, May 1997

	Bachelor's degree or higher	Diploma/ associate diploma	Skilled vocational	Basic vocational	Without post-school qualification
Transport and storage	7.8	6.9	14.8	8.3	62.0
Total industry	**17.2**	**9.0**	**12.6**	**9.4**	**49.4**

Source: ABS, *Transition from education to work*, cat.6227.0, May 1997

Despite the relatively low level of jobs in the industry designated as skilled trades, only 4.9% of the industry's jobs, there is an above-average proportion of workers in the industry with trades-level qualifications.

This phenomenon occurs in several other industries, such as wholesaling, and might indicate that transport and storage is a destination industry for those tradespersons who leave their trade area to work in an occupation not directly related to their trade. Given the advantage of mechanical knowledge for transport drivers, it could be surmised that motor mechanics leave their trade to become drivers. It is worth noting that truck driver is the second largest individual occupational category for males in Australia, after sales assistant, and the largest full-time occupation for males overall.

Occupational trends and skills shortages

This analysis of occupational trends uses the first edition Australian Standard Classification of Occupations (ASCO) code. The second edition of ASCO, used in table 9.4, was introduced recently and groups occupations differently, which makes analysis of time book data more difficult. For this reason, the analysis covers the decade from 1987 to 1996.

Over that decade, the transport and storage industry grew more slowly, by 5.2%, than the workforce overall, which grew by 16.9%. Two broad occupational categories within the industry actually declined over the decade: tradespersons by about 1.5%, and labourers and related by nearly 21%. Across all industry categories, tradespersons' numbers grew over the decade by 6.4% while labourers grew by 9.8%, both well below the growth rate for all jobs.

Table 9.6 shows the occupations in the industry that experienced above-average growth over the decade. A full listing of the numbers in all occupations in the industry is in table A9.3 in the notes at the end of this chapter.

In the 1997 ESS, respondents were asked whether they believed there were any areas within their industry where there were insufficient VET graduates to meet their needs. Within the transport and storage industry, a low 22% of employers said that there were shortages. As with most industries, the most common area of shortage was identified as in the trades category. No more specific data are available, however, from this source.

The Department of Employment, Education, Training and Youth Affairs (DEETYA) skilled vacancy survey does, however, show strong growth in demand over the last year for automotive tradespersons, an occupation that grew strongly in this industry over the last decade. A recently released survey by the Australian Chamber of Commerce and Industry (ACCI) found shortages of automotive tradespersons across Northern Australia, while Commonwealth Employment Service (CES) data for Northern Australia showed vacancies for automotive tradespersons as being hard to fill.

Table 9.6: Employment growth '000s by occupation, transport and storage industry, Australia, 1987–1996—occupations with above-average growth

Occupation	Employment 1987	Employment 1996	% change
Supply and distribution managers	2.8*	3.8	36
Managing supervisors	5.2	6.8	31
Aircraft pilots	3.0*	4.8	60
Metal fitters and machinists	3.6	5.4	50
Vehicle mechanics	5.1	8.1	59
Computer operators	3.3*	6.5	97
Accounting clerks	20.8	24.8	19
Stock/purchasing clerks	1.9*	3.7	95
Receptionists/info clerks	3.1*	6.1	97
Ticket salespersons	8.4	10.8	29
Travel agents	12.4	17.1	38
Travel stewards	5.7	8.4	47
Automobile drivers	23.0	28.8	25
Forklift drivers	3.2*	4.4	38
Storepersons	4.4	5.9	34

Note: *Subject to sampling variability too high for most practical uses

Source: ABS, *Labour force, Australia*, cat.6203.0, 1987–1996

Given that most of the workers in the industry have either no post-school qualifications or commonly lower-level formal qualifications, it is unlikely that there are chronic or widespread shortages in the industry. Some reports have suggested that there are likely to be shortages of workplace trainers and bus operators, and that 30% of the workforce has less than optimal levels of literacy.

In 1997 the national industry training advisory body (ITAB), the Transport and Distribution ITAB, reported as follows to the Australian National Training Authority (ANTA) on the industry's view of skill shortages:

> *There is no existing statistical basis from which skills shortages can be derived. Information is drawn from previous industry VET plans, and from anecdotal evidence. Skill shortages are national unless otherwise specified.*
>
> *Drivers (road transport) appear to have skill deficits in the areas of:*
>
> - *literacy and numeracy (with an estimated 10% being illiterate)*
> - *knowledge of dealing with transportation of dangerous goods*
> - *computer skills*
> - *small business management (in an industry dominated by small operators, many being husband-and-wife firms)*
>
> *Train driver shortages in New South Wales, Queensland and Western Australia represent an ageing workforce and insufficient internal recruitment.*
>
> *Other national skill shortages, together with the sectors in which they are most critical, include:*
>
> - *literacy and numeracy (distribution, where approximately 10% of the workforce is illiterate)*
> - *customer service and communication (distribution)*

- *basic computer skills (distribution)*
- *management planners and schedulers (public transport)*
- *station staff (public transport)*
- *first-level management skills (cross-industry shortage)*

Causes of skill shortages include the demands of a competitive environment, increased customer focus, the development of flatter structures, together with devolution of responsibility, and the need to develop skills, including computer skills, to meet the challenge of an increasingly technological environment.

Hours of work and earnings

As noted earlier, the industry has a relatively high proportion of full-time jobs at over 77%—only mining, the utilities, and construction have a higher proportion. Average weekly hours worked in the industry are also high, 40.3 hours against an all-industry average of 35.6 hours, making it the third highest industry in terms of average weekly hours worked, behind agriculture and mining.

Table 9.7: Transport and storage industry employment, by sex and hours worked, Australia, November 1997

	Full-time ('000s)		Part-time ('000s)		Total ('000s)	
	No.	%	No.	%	No.	%
Males	274.6	81.2	26.6	52.6	301.2	77.4
Females	63.7	18.8	24.1	47.6	87.8	22.6
Total	**338.3**	**100.0**	**50.6**	**100.0**	**389.0**	**100.0**

Source: ABS, *Labour force, Australia*, cat.6203.0, 1997

Average weekly non-managerial full-time earnings in 1996 were quite high at $743, compared with the all-industry average of $683. The male rate in this category was $782, while females earned $607. In 1993–1994 total annual labour costs per employee in the industry were among the highest at $44 253, third to mining, and communication services, and well above the all-industry average of $32 755.

- **The occupational profile of this industry shows relatively low proportions of workers in professional, associate professional and trade occupations.**
- **The largest concentration of occupations occurs in the intermediate production and transport occupations, which includes the large occupations of truck drivers and storepersons.**
- **Relatively few workers in the industry possess high-level VET or university qualifications and a high proportion have no post-school qualifications.**

Training in transport and storage

There is a difficulty with existing training statistics when an analysis of training activity by industry is attempted. Students enrolled in TAFE colleges and with other VET providers are not necessarily associated with an employer and hence with a specific industry. ANTA attempts to relate each course to the industry most likely to employ graduates of that course, but this is obviously a difficult task.

Fortunately there is a training area designated transport and storage. In 1996 just 0.6% of total government-funded training was allocated to this area, well below the sector's share of total employment. It should be kept in mind, however, that only about 55% of the total VET funding was allocated to specific industry areas. The remainder was allocated to the more general areas of business and clerical training, computing, general education etc. Of course, graduates from these courses would often have acquired skills appropriate to the transport and storage industry.

Nevertheless, transport and storage was the area that received the lowest level of funding on the basis of hours of government-funded training per employee in the industry. Transport and storage received about three hours per employee compared with an average of 27 hours.

Unfortunately neither the field of study codes nor the discipline group codes used in the compilation of VET statistics allows the identification of students enrolled in courses leading to employment in transport and storage.

Employer satisfaction with VET

The 1997 ESS included 183 employers in the transport and storage industry. Employers were asked to provide a measure of their overall satisfaction with VET on a 10-point scale. Employers in the industry gave VET a score of 6.5, the third lowest rating of all industries, ahead of only accommodation, cafés and restaurants, and mining (mean for all industries was 6.6).

The two areas where most transport and storage industry employers wanted to see improvement in VET provision were:

- the work ethic of VET graduates
- the balance between theory and practice

In both these areas, employers in this industry were much more likely than employers overall to identify these areas as shortcomings in VET delivery. In the case of the latter, they were the industry that expressed the greatest concern over the balance between theory and practice. Overall satisfaction with TAFE was rated the same 6.5 as the more broadly defined VET sector. Variations between States were not great, with the Australian Capital Territory receiving the lowest rating of 5.5 and South Australia and Western Australia the highest at 7.

VET graduates in transport and storage

In the 1997 TAFE GDS there were 1261 respondents surveyed who were working in the transport and storage industry, or 2.9% of the total number surveyed, a similar proportion to the 3% in the equivalent survey in 1995. Graduates working in the industry were not as critical of VET provision as were their employers.

While only 46.1% of the surveyed graduates working in the industry rated their course as 'highly relevant', this placed them in the middle range of the industries in this regard. The following table compares overall ratings of 'highly relevant' in the 1995 and 1997 surveys in a range of industries. The reduction in the score for relevance in the transport and storage industry between the two surveys is quite marked.

Table 9.8: Proportion of TAFE graduates by industry rating their course 'highly relevant', 1995 and 1997 GDS

Industry	**Proportion rating 'highly relevant'**	
	1995 survey	1997 survey
Transport and storage	**52**	**46**
Manufacturing	52	51
Wholesale	44	40
Retail trade	39	38
Accommodation, cafés and restaurants	51	45
Property and business services	55	51
Construction	70	69
Health and community services	62	62

Source: NCVER, *TAFE graduate destination survey 1997: National report*; ABS, *1995 Graduate outcomes, technical and further education, Australia*

In the case of respondents employed in transport and storage, 56.5% were in New South Wales, well above that State's share of employment in the industry.

Graduates were also asked to rate various aspects of their course on a 10-point scale. The following analysis of these responses groups the number giving a score of 7 or more out of 10 and compares this with the responses of all graduates in the survey. On most items, graduates working in transport and storage gave average or slightly below-average ratings to the various aspects of their course. The aspects of the course that they gave relatively low ratings to were as follows:

- course content reflecting industry practice
- quality of equipment for practising skills
- availability of equipment for practising skills
- information about careers and jobs
- balance between instruction and practice

Relatively high ratings were given to:

- qualification well regarded by employers
- convenience of venue and class times

The lowest rating item, both in this industry and across all industries, was the adequacy of the provision of information on jobs and careers. Only 38.2% of graduates working in the industry gave this item a rating of 7 or better, compared with 41% of all graduates. This indicates that this is an area in need of attention.

Graduates were also asked to identify their reasons for undertaking their course and whether they had achieved their aim. For graduates working in the transport and storage industry, the following table shows the reasons for doing their course and whether they achieved their aim.

Table 9.9: Graduates working in transport and storage, reasons for undertaking course and % achieving aim

Reason	Number	% fully achieving	% partly achieving
To get a job	313	66.8	18.5
Try for different career	210	57.6	18.1
Get a better job/promotion	232	50.0	21.6
Requirement of job	146	91.1	4.1
Get extra skills for job	180	71.1	21.1
Interest/personal development	135	83.7	10.4

Source: NCVER, 1997 TAFE graduate destination survey, unpublished data

Graduates working in the industry most commonly had completed a certificate (other) (23.3%), an associate diploma (15.1%) or an advanced certificate (14.1%). This was an interesting outcome as it suggests that employers in the industry were seeking relatively high-level VET credentials in their recruits, the proportion with an associate diploma or advanced certificate being above the total share of employed graduates with such a credential.

Graduates in the industry who had been employed during the final semester of their course were slightly more likely than the average graduate to have received some form of financial support from their employer. Of all graduates working in the industry, 52.1% received some form of support, mainly in the form of payment of fees or paid time off work. This compares to around 51% support for all industries.

Of those working in the industry when surveyed, 62.5% already had a job when they were surveyed, slightly below the all-industry average. Nearly 10%, a relatively high proportion, had taken more than three months to secure their job. For an above-average proportion of these people, this was their first job. Reflecting the overall pattern of employment in the industry, 76% were working full time, well above the 66% of all graduates surveyed across all industries.

Employer support for training

In 1996 the ABS conducted a survey for the September quarter of that year looking at employer expenditure on structured training, following up a similar survey undertaken in 1993.[1] Transport and storage industry employers were divided between air and space transport and other transport (meaning road, rail, sea and other) and storage.

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[1] *Employer training expenditure, Australia*, cat.6353.0, July to September 1996

Overall average expenditure per employee by employers in the industry was $251, well above the all-industry average of $185. This was the product of very high levels of expenditure by the air transport sector, combined with close to average expenditure by the remainder of the industry.

The air transport industry spent, on average, $557 per employee, second only to the mining industry. This provided 13.28 hours of training per employee compared with the all-industry average of 4.91 hours. It also represented an increase over the level provided in 1993 when air transport employers provided 12.21 hours of training per employee. Between 1993 and 1996 there was an overall reduction in the average hours of training provided by all employers of about 11.5%. This emphasises the strong training effort made by employers in the air transport industry.

The other areas of transport and storage provided structured training at about the average of all employers. In 1996 they spent just under the all-industry average of $185.49 per employee and provided 4.56 hours of training against the all-industry average of 4.91.

In line with the air transport sector, employers in other transport and storage also increased their training effort between 1993 and 1996, against the all-industry trend. In 1993 other transport and storage employers spent $168 per employee and provided 4.26 hours of training. So, while in 1996 their training expenditure was only average, they were on a rising trend compared with the falling trend across all industries.

A later ABS survey *Employer training practices, Australia* (cat.6356.0), undertaken in February 1997, suggests that this rising trend continued in the industry at least up to early 1997. The employers included in this survey were the same employers contacted for the 1996 training expenditure survey. However, training practices data were collected for the previous 12 months rather than the three months in the training expenditure survey.

No reliable data are available on the level of apprenticeships and traineeships in the industry.

- ❖ **The transport and storage industry appears to receive relatively little direct government VET funding in comparison with other industry sectors.**
- ❖ **Employers in the industry are relatively dissatisfied with VET provision.**
- ❖ **VET graduates working in the industry are generally less critical of VET provision than their employers. However, they were critical of inadequate provision of equipment for practising industry-specific skills.**
- ❖ **VET graduates in this industry, as with all other VET graduates, were critical of the inadequacy of information on jobs and careers.**
- ❖ **Employers in the air transport sector are among the highest spenders of all industry groups on structured training for their employees.**

Some training issues in transport and storage

- There appears to be a very low level of government-funded VET provision for skills specific to the transport and storage industry. ANTA figures show only about three hours of training per employee in the industry was funded by government, compared with an all-industry average of 27 hours per employee.
- The skills profile of the industry is low, with a high proportion of the workforce lacking formal post-school qualifications. Evidence has been quoted of problems of inadequate literacy skills in the industry. The high rate of change in the industry's composition and occupational make-up suggests that urgent attention needs to be given to identifying likely skills shortages, especially in the air and water transport sectors and in the small, but growing, storage sector.
- Skill needs in the largest component of the industry, road transport, appear to require more attention and perhaps would indicate reallocation of government resources into this area.
- Employment in the storage sub-division has grown strongly in recent years. The training needs of this sector need to be examined and addressed more explicitly.
- The pattern of recruitment into the industry of TAFE graduates in 1997 indicates a demand for more highly qualified recruits. However, it is difficult to identify, using current VET statistical definitions, those students currently enrolled who are likely to find employment in the industry.
- The marked variations in male and female TAFE graduate full-time earnings in the industry suggest that any expansion of government funding for the industry should be accompanied by an analysis of occupational segregation in the industry and gender equity strategies to reduce this level of discrimination.

Notes

The following table is extracted from the ANTA resource allocations for 1997 document, available at their website. It shows the planned allocations of government-funded training between the ANTA-defined 'training areas' in terms of 'annual hours curriculum' (AHC).

Table A9.1: Key national shifts in activity between 1996 revised estimates and 1997 projected activity (AHC '000s)

Industry training area	1996 revised	1997 projected	Total increase	Total increase as % of 1996 revised	% of overall increase
Category A					
Arts, Entert, Sports and Rec	11 408	11 928	520	4.6	5.5
Automotive	8 221	8 576	355	4.3	3.7
Building and Construction	18 785	19 009	224	1.2	2.4
Comm Services, Health and Ed	20 910	22 382	1 471	7.0	15.5
Finance, Banking and Insurance	3 420	3 468	48	1.4	0.5
Food Processing	2 454	2 851	396	16.1	4.2
TCF and Furnishings	5 714	5 813	100	1.7	1.0
Communications	1 883	1 963	80	4.3	0.8
Engineering and Mining	15 654	16 607	952	6.1	10.0
Primary Industry	11 874	12 217	343	2.9	3.6
Process Manufacturing	397	479	82	20.6	0.9
Sales and Personal Service	6 527	6 752	225	3.4	2.4
Tourism and Hospitality	16 707	18 151	1 444	8.6	15.2
Transport and Storage	1 686	1 851	164	9.8	1.7
Utilities	11 898	12 145	247	2.1	2.6
Category B					
Business and Clerical	42 412	43 117	705	1.7	7.4
Computing	11 969	12 641	672	5.6	7.1
Science, Technical and Other	6 727	6 870	143	2.1	1.5
Category C					
Gen Education and Training	40 046	41 212	1 166	2.9	12.3
Unallocated	622	779	157	25.2	1.6
Total	**239 316**	**248 810**	**9 494**	**4.0**	**100.0**

Note: TCF – textiles, clothing and footwear

Source: Publications, *ANTA Resource Allocations 1997*, <www.anta.gov.au>

Table A9.2: Employment in transport and storage, November 1987 to November 1997

	Nov.1987	Nov.1988	Nov.1989	Nov.1990	Nov.1991	Nov.1992	Nov.1993	Nov.1994	Nov.1995	Nov.1996	Nov.1997
Transport and storage	373.3	372.7	387.2	378.2	377.7	348.6	357.9	378.6	386.2	392.6	389
Road transport	180.3	172.5	181.6	183.3	184.8	162.8	176.8	173.1	192.0	182.4	197
Rail transport	73.9	69.4	61.2	62.0	66.2	53.9	52.3	55.2	45.5	50.5	41.6
Water transport	8.2	9.0	10.8	7.9	7.0	8.0	7.3	10.1	10.1	10.9	12.1
Air and space transport	32.5	34.6	44.0	39.0	32.6	36.2	31.3	45.5	45.1	50.9	45.6
Other transport	1.8	0.7	1.7	2.8	1.8	2.0	2.4	8.4	6.9	9.2	6.3
Services to transport	67.7	75.0	71.5	65.1	70.0	66.9	65.8	67.4	68.8	67.2	67.3
Storage	8.9	11.6	16.4	17.9	15.0	18.0	21.9	19.0	17.8	21.5	19.0

Source: ABS *Labour force, Australia*, cat.6203.0, 1987–1997

Table A9.3: Employed persons, by occupation, in the transport and storage industry, 1987 and 1996

ASCO code and occupation	1987	1996	Change 1987 to 1996	
				Average annual
	('000s)	('000s)	('000s)	%
1307 Supply and distribution managers	2.8	3.8	1.0	3.6
1599 Other managing supervisors (sales and service)	3.8	2.2	–1.6	–6.1
1601 Managing supervisors (other business)	5.2	6.8	1.6	3.1
3301 Aircraft pilots	3.0	4.8	1.8	5.5
4103 Metal fitters and machinists	3.6	5.4	1.8	4.7
4211 Aircraft maintenance engineers	3.7	4.1	0.4	1.2
4601 Vehicle mechanics	5.1	8.1	3.0	5.4
5101 Office secretaries and stenographers	7.4	5.6	–1.8	–3.1
5201 Data processing machine operators	3.3	6.5	3.2	8.1
5301 Accounting clerks	20.8	24.8	4.0	2.0
5503 Transport recording and despatching clerks	14.1	12.5	–1.6	–1.4
5505 Stock and purchasing clerks	1.9	3.7	1.8	7.9
5601 Receptionists and information clerks	3.1	6.1	3.0	8.0
5999 Other clerks	4.6	0.8	–3.8	–18.1
6405 Ticket salespersons	8.4	10.8	2.4	2.9
6507 Travel agents	12.4	17.1	4.7	3.7
6609 Travel stewards	5.7	8.4	2.7	4.5
7101 Bus and tram drivers	23.1	23.8	0.7	0.3
7103 Automobile drivers	23.0	28.8	5.8	2.6
7105 Truck drivers	81.8	90.7	8.9	1.2
7107 Locomotive drivers	13.2	7.4	–5.8	–6.4
7203 Forklift and related drivers	3.2	4.4	1.2	3.7
7399 Other stationary plant operators	5.5	4.2	–1.3	–3.0
8301 Cleaners	4.6	4.5	–0.1	–0.3
8413 Railway labourers	8.9	4.1	–4.8	–8.5
8903 Luggage porters	3.5	2.8	–0.7	–2.5
8907 Storemen/women	4.4	5.9	1.5	3.4
8909 Freight and furniture handlers	8.7	6.2	–2.5	–3.8
8911 Guards and security officers	5.2	2.5	–2.7	–8.0
8925 Fishermen/women deckhands and seamen/women	3.6	4.0	0.4	1.2
8999 Other labourers and related workers	4.1	2.4	–1.7	–5.9
Other occupations	73.0	71.1	–1.9	–0.3
Total all occupations	**374.7**	**394.3**	**19.6**	**0.6**

Note: As estimates of less than 3500 are subject to high statistical error, they are listed against specific occupations only where there was a higher estimate in either 1987 or 1996. Where estimates of less than 3500 were recorded for both 1987 and 1996, they are included in the 'other occupations' category.

Source: ABS labour force survey, unpublished data

Table A9.4: Educational attainment of employed persons by industry, occupation (1-digit ASCO) and type of post-school qualification at 1996 Census

Transport and storage	**Bachelor degree or higher**	**Undergraduate diploma**	**Associate diploma**	**Skilled vocational qualification**	**Basic vocational qualification**	**With qualifications**	**Inadequately described or not stated**	**Not applicable (No quals.)**	**Total**
ASCO code and occupation									
1 Managers and Administrators	3 672	1 137	931	2 231	852	8 823	1 469	10 424	20 716
2 Professionals	5 695	4 124	1 882	2 220	1 045	14 966	1 905	5 343	22 214
3 Associate Professionals	1 761	919	1 375	3 703	1 033	8 791	1 771	13 571	24 133
4 Tradespersons and Related Workers	218	195	447	12 883	278	14 021	1 124	4 347	19 492
5 Advanced Clerical and Service Workers	1 472	930	653	997	1 088	5 140	1 779	11 014	17 933
6 Intermediate Clerical, Sales and Service Workers	4 139	2 927	3 181	3 177	4 087	17 511	5 666	32 831	56 008
7 Intermediate Production and Transport Workers	2 650	1 380	1 239	21 595	2 928	29 792	8 281	94 911	132 984
8 Elementary Clerical, Sales and Service Workers	1 232	639	666	1 585	819	4 941	1 391	12 538	18 870
9 Labourers and Related Workers	193	113	124	1 677	248	2 355	962	11 733	15 050
0 Inadequately described	124	62	85	598	74	943	284	1 876	3 103
Not stated	37	19	19	138	22	235	269	1 070	1 574
Not applicable	–	–	–	–	–	–	–	–	–
Total	**21 193**	**12 445**	**10 602**	**50 804**	**12 474**	**107 518**	**24 901**	**199 658**	**332 077**

Source: ABS, 1996 Census of population and housing

Table A9.5: Educational attainment of employed persons by industry, occupation (3-digit ASCO) and type of post-school qualification at 1996 Census

Transport and storage ASCO code and occupation	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
100 Managers and Administrators nfd	389	142	109	420	126	1 186	284	1 829	3 299
110 Generalist Managers nfd	0	0	0	0	0	0	0	3	3
111 General Managers and Administrators	729	263	121	280	149	1 542	264	1 488	3294
119 Miscellaneous Generalist Managers	133	42	36	157	31	399	79	342	820
120 Specialist Managers nfd	111	29	23	33	20	216	29	154	399
121 Resource Managers	784	133	175	82	74	1 248	125	762	2 135
122 Engineering, Distribution and Process Managers	694	228	228	925	238	2 313	395	3 911	6 619
123 Sales and Marketing Managers	515	161	115	158	131	1 080	160	1 110	2 350
129 Miscellaneous Specialist Managers	304	127	110	127	73	741	91	467	1 299
131 Farmers and Farm Managers	15	12	14	48	10	99	42	360	501
200 Professionals nfd	76	12	10	25	11	134	14	53	201
210 Science, Building and Engineering Professionals nfd	0	0	3	0	0	3	0	0	3
211 Natural and Physical Science Professionals	71	3	10	3	6	93	5	24	122
212 Building and Engineering Professionals	847	84	177	373	20	1 501	87	189	1 777
220 Business and Information Professionals nfd	19	3	5	4	0	31	0	18	49
221 Accountants, Auditors and Corporate Treasurers	1 407	144	406	16	45	2 018	155	603	2 776
222 Sales, Marketing and Advertising Professionals	317	69	67	75	68	596	85	473	1 154
223 Computing Professionals	841	103	140	91	86	1 261	96	602	1 959
229 Miscellaneous Business and Information Profs	620	119	147	242	118	1 246	154	874	2 274
230 Health Professionals nfd	0	0	0	0	0	0	0	0	0
231 Medical Practitioners	19	0	0	0	0	19	0	3	22
232 Nursing Professionals	24	23	0	3	3	53	4	11	68
238 Miscellaneous Health Professionals	12	4	0	0	0	16	0	3	19

Transport and storage	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
240 Education Professionals nfd	0	0	0	0	0	0	0	3	3
241 School Teachers	21	6	3	3	0	33	4	10	47
242 University and Vocational Education Teachers	22	6	3	12	3	46	3	7	56
249 Miscellaneous Education Professionals	25	13	7	22	4	71	14	54	139
250 Social, Arts and Miscellaneous Professionals nfd	6	0	0	0	0	6	0	0	6
251 Social Welfare Professionals	31	12	10	11	9	73	14	48	135
252 Miscellaneous Social Professionals	147	14	12	18	12	203	19	64	286
253 Artists and Related Professionals	62	26	15	35	19	157	28	128	313
254 Miscellaneous Professionals	1 128	3 482	866	1 285	643	7 404	1 223	2 177	10 804
300 Associate Professionals nfd	20	6	12	21	12	71	8	95	174
310 Science/Engineering and Related Assoc Profs nfd	5	6	86	70	8	175	10	17	202
311 Medical and Science Technical Officers	19	3	17	23	6	68	10	26	104
312 Building/Engineering Associate Professionals	58	75	407	591	60	1191	60	203	1 454
320 Business and Administrative Assoc Profs nfd	3	0	3	0	0	6	0	6	12
321 Finance Associate Professionals	90	11	27	25	31	184	37	224	445
329 Miscellaneous Business/Admin Assoc Profs	708	275	403	461	348	2195	466	3 110	5 771
330 Managing Supervisors (Sales and Service) nfd	0	3	3	6	3	15	0	16	31
331 Shop Managers	44	24	19	76	23	186	43	395	624
332 Hospitality and Accommodation Managers	45	42	27	297	33	444	79	409	932
339 Miscellaneous Mngr. Supervisors (Sales and Service)	697	437	322	1 976	467	3 899	981	8 563	13 443
340 Health and Welfare Assoc Professionals nfd	0	0	0	0	0	0	0	0	0
341 Enrolled Nurses	0	0	0	0	4	4	0	3	7
342 Welfare Associate Professionals	0	0	0	0	0	0	0	7	7
349 Miscellaneous Health and Welfare Associate Profs	0	3	9	3	7	22	3	10	35
390 Other Associate Professionals nfd	0	0	0	0	0	0	0	0	0
391 Police Officers	0	3	0	5	3	11	4	10	25
399 Miscellaneous Associate Professionals	70	34	41	149	28	322	69	478	869

Transport and storage	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
400 Tradespersons and Related Workers nfd	6	4	19	277	3	309	23	147	479
410 Mechanical/Fabrication Engineering Trades nfd	0	0	0	11	0	11	0	3	14
411 Mechanical Engineering Tradespersons	88	91	183	5 066	73	5 501	303	1 026	6 830
412 Fabrication Engineering Tradespersons	3	0	7	776	15	801	85	364	1 250
421 Automotive Tradespersons	8	16	32	3 244	32	3 332	278	912	4 522
431 Electrical and Electronics Trades	49	25	152	2 187	60	2 473	166	578	3 217
440 Construction Tradespersons nfd	0	0	0	0	3	3	0	0	3
441 Structural Construction Trades	4	3	6	375	9	397	48	199	644
442 Final Finishes Construction Trades	0	3	3	138	6	150	20	81	251
443 Plumbers	3	3	7	178	3	194	13	36	243
451 Food Tradespersons	11	10	5	127	16	169	26	186	381
460 Skilled Agricultural/Horticultural Workers nfd	0	0	0	0	0	0	0	0	0
461 Skilled Agricultural Workers	3	0	0	9	0	12	5	19	36
462 Horticultural Tradespersons	6	5	5	53	11	80	28	174	282
490 Other Tradespersons and Related Workers nfd	0	0	0	3	0	3	0	0	3
491 Printing Tradespersons	5	5	5	24	8	47	9	53	109
492 Wood Tradespersons	0	0	0	35	3	38	9	18	65
493 Hairdressers	0	0	0	15	0	15	3	3	21
494 Textile, Clothing and Related Trades	0	0	0	16	0	16	3	27	46
498 Miscellaneous Tradespersons and Related Wkrs	30	26	23	350	36	465	106	521	1 092
500 Advanced Clerical and Service Workers nfd	0	0	0	0	0	0	3	5	8
511 Secretaries and Personal Assistants	233	221	160	166	530	1 310	827	4 182	6 319
590 Other Advanced Clerical and Service Wkrs nfd	0	0	0	0	0	0	0	0	0
591 Advanced Numerical Clerks	187	104	158	90	134	673	293	2 519	3 485
599 Miscellaneous Advanced Clerical and Service Wkrs	052 1	605	334	741	424	3 156	658	4 307	8 121
600 Intermediate Clerical, Sales and Service Wkrs nfd	15	8	13	11	17	64	15	98	177
610 Intermediate Clerical Workers nfd	3	0	0	0	0	3	3	26	32

Transport and storage	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
611 General Clerks	385	192	228	339	431	1 575	709	6 600	8 884
612 Keyboard Operators	134	68	97	81	197	577	277	1 905	2 759
613 Receptionists	50	59	73	47	184	413	202	1 295	1 910
614 Intermediate Numerical Clerks	311	106	354	118	234	1 123	335	2 853	4 311
615 Material Record and Despatch Clerks	435	297	402	1 138	735	3 007	944	7 232	11 183
619 Miscellaneous Intermediate Clerical Workers	187	107	146	330	199	969	291	2 467	3 727
621 Intermediate Sales and Related Workers	361	221	180	299	190	1 251	226	2 096	3 573
630 Intermediate Service Workers nfd	4	3	3	9	0	19	7	31	57
631 Carers and Aides	16	12	6	27	14	75	20	159	254
632 Hospitality Workers	33	11	20	29	21	114	39	332	485
639 Miscellaneous Intermediate Service Workers	2 207	1 843	1 659	748	1 862	8 319	2 598	7 737	18 654
700 Intermediate Production and Transport Wkrs nfd	6	5	0	141	16	168	52	629	849
710 Intermediate Plant Operators nfd	3	3	0	74	12	92	29	324	445
711 Mobile Plant Operators	65	53	50	1 176	135	1 479	428	5 706	7 613
712 Intermediate Stationary Plant Operators	27	21	28	448	88	612	224	3 050	3 886
720 Intermediate Machine Operators nfd	19	16	13	263	36	347	122	1 038	1 507
721 Intermediate Textile/Clothing/Related Mach Ops	0	0	0	8	0	8	4	44	56
729 Miscellaneous Intermediate Machine Operators	0	3	0	21	3	27	4	76	107
731 Road and Rail Transport Drivers	2 354	1 165	1 027	18 236	2 192	24 974	6 704	78 065	109 743
790 Other Intermediate Prod'n and T'port Wkrs nfd	0	0	0	0	0	0	0	3	3
791 Intermediate Mining and Construction Workers	3	0	0	42	25	70	18	120	208
799 Misc Intermediate Prod'n and Transport Wkrs	173	115	119	1 186	420	2 013	696	5 858	8 567
800 Elementary Clerical, Sales and Service Wkrs nfd	16	3	11	24	14	68	13	238	319
811 Elementary Clerks	74	26	33	80	68	281	123	1134	1538
820 Elementary Sales Workers nfd	0	3	0	0	0	3	0	11	14
821 Sales Assistants	186	65	102	130	115	598	168	1 399	2 165
829 Miscellaneous Elementary Sales Workers	767	472	459	521	514	2 733	709	5 522	8 964

Transport and storage	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
831 Elementary Service Workers	188	70	61	829	108	1 256	378	4 234	5 868
900 Labourers and Related Workers nfd	11	6	6	78	9	110	71	796	977
911 Cleaners	48	22	24	210	46	350	202	2 220	2 772
920 Factory Labourers nfd	0	0	0	0	0	0	0	5	5
921 Process Workers	12	5	5	82	20	124	42	698	864
922 Product Packagers	19	11	15	38	8	91	56	553	700
990 Other Labourers and Related Workers nfd	0	0	0	0	3	3	0	15	18
991 Mining, Construction and Related Labourers	28	4	19	405	32	488	239	3 017	3 744
992 Agricultural and Horticultural Labourers	4	3	9	30	12	58	15	248	321
993 Elementary Food Preparation and Related Wkrs	22	9	7	55	13	106	65	497	668
999 Miscellaneous Labourers and Related Workers	48	52	39	778	106	1 023	272	3 684	4 979
099 Inadequately described	124	62	85	598	74	943	284	1 876	3 103
Not stated	37	19	19	138	22	235	269	1 070	1 574
Not applicable	–	–	–	–	–	–	–	–	–
Total	**21 191**	**12 443**	**10 599**	**50 799**	**12 473**	**107 505**	**24 903**	**199 663**	**332 071**

Note: nfd – not further defined

Source: 1996 Census of population and housing

10 Communication services

The communications industry is one of the smallest of the major industry divisions in Australia, accounting for about 150 000 persons or around 1.7% of the Australian workforce.[1] Its gross product, however, accounts for about twice this proportion of total Australian gross product.

Employment in this industry has risen by only a small amount over the last ten years or so. In 1987 there were about 141 000 persons employed in the industry. By November 1997 this level had risen to about 149 000. However, over the period there was a considerable amount of fluctuation in the industry's employment. Employment peaked in 1996 and declined quite sharply after that.

The industry has several distinguishing characteristics. It is quite male dominated, with over two-thirds of its workforce males. It also has only a small proportion of part-time jobs—only 12.8% compared with nearly 26% across all industries. It employs a slightly below-average proportion of workers born overseas.

Table 10.1: Employment ('000s) in communication services by sub-sector, by gender and type of employment, Australia, November 1997

Industry sub-sector	Males	Females	Full-time	Part-time	Total
Postal and courier services	47.7	24.9	57.6	14.9	72.5
Telecommunication services	53.3	23.0	72.2	4.1	76.3
Total	**100.9**	**47.9**	**129.8**	**19.0**	**148.8**

Source: ABS, *Labour force, Australia*, cat.6203.0, November 1997

This industry has a low proportion of professional and managerial jobs offset by a relatively high proportion of jobs classified as trades level and elementary clerical/sales/service jobs. Given the industry's relatively high proportion of trades-level jobs, it is surprising that a well-below-average proportion of the industry's workforce actually possesses trade qualifications.

The industry has a high proportion, 60%, of its workforce without formal post-school qualifications posing a challenge to the vocational education and training (VET) sector to assist in the workforce's retraining and recognition of existing skills learned on the job. While the total number of jobs in the industry has not changed much over the last decade or so, the occupational composition of the industry has changed substantially. Jobs for para-professionals and tradespersons have declined, while jobs for managers, some professionals and for clerical, sales and service workers have grown.

Accompanying this occupational change has been a gradual rise in the female share of jobs. Female employment in the industry has grown by around 10 000 over the decade, while male employment has declined by about 5000. Despite this, the industry is still predominantly male. This male dominance is especially marked in the earnings of technical and further education (TAFE) graduates entering the industry. In the TAFE graduate destination survey for 1997 (GDS), compiled by the National Centre for Vocational Education Research (NCVER), male graduates working full-time in the industry earned $189 more than their female counterparts. This discrepancy was much greater than for the earnings of all non-managerial workers in the industry, which was less than $100. That VET qualifications should appear to increase rather than decrease income differentials between males and females is of concern to the VET sector generally and is worthy of further analysis.

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[1] Australian Bureau of Statistics (ABS), *Labour force, Australia*, cat.6203.0, November 1997

In the survey on employer satisfaction with VET for 1997 (ESS), also compiled by NCVER, employers in the industry expressed an overall satisfaction rating for VET provision equal to the average for all industries (6.7 on a 10-point scale). Employers in the industry generally spend more than average on structured training. However, their commitment to training has waned significantly, and much more than employers overall since the removal of the provisions of the Training Guarantee Act.

In the 1997 GDS, graduates working in the industry rated most aspects of their TAFE training below average identifying, in particular, inadequate access to equipment on which to practise their skills. Along with graduates in all industries, but particularly so in this industry, graduates were critical of poor provision of information on jobs and careers.

An industry snapshot

The communication services industry in Australia covers the areas of telecommunications, postal and courier services. It is the third smallest of the 17 industry divisions in Australia in terms of numbers employed, with just under 150 000 persons, or about 1.7% of the total employed workforce. This places it ahead of the mining, and electricity, gas and water industries but smaller than the cultural and recreational services sector.

The industry's gross product in 1995–96 of more than $15 billion represented just over 3.5% of total Australian gross product, about double its share of total employment. With only about 8000 establishments in the industry across Australia, it is the second smallest sector after mining in terms of establishment numbers. Over the decade of the 1990s, the gross product of the sector has risen much more rapidly than total gross domestic product (GDP)—in fact, about four times faster.

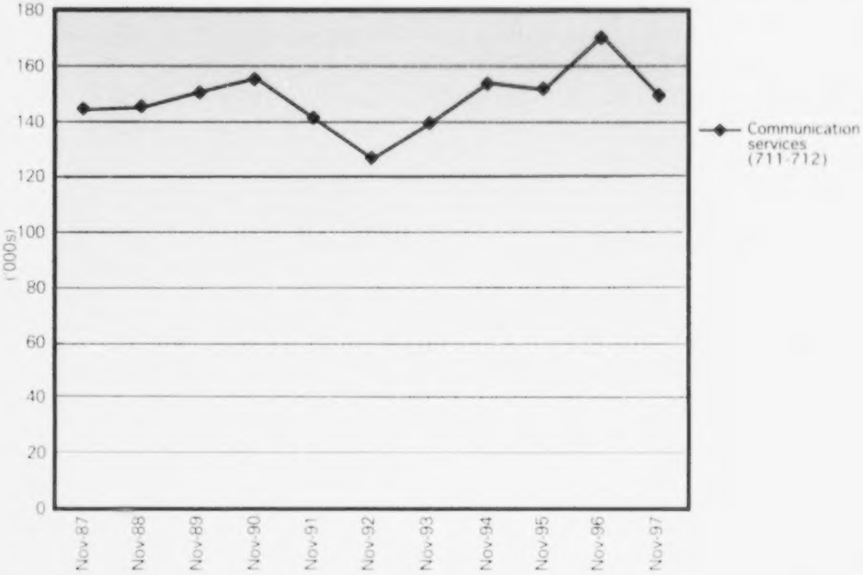
Employment in the sector has grown very little over the last decade or so. Chart 10.1 shows employment as at November from 1987 to 1997. While there have been substantial fluctuations in the industry's overall employment level, between 1987 and 1997 employment rose by only 3.3%, compared with a rise in total employment over the same period of more than 18.5%.

This relative stability in overall employment levels disguises substantial internal changes occurring in the industry, reflecting the enormous degree to which technological change is affecting the sector.

Convergence of technologies is blurring the distinction between on-line services, which are part of the telecommunications sub-sector of this industry with radio and television broadcasting, both part of the cultural and recreational services industry.

Deregulation of telephone services, begun in 1991 and becoming fully open in 1997, together with partial deregulation of postal services, have changed the face of service provision in these areas, with the growth of courier services one outcome of this change.

Chart 10.1: Employment trends in communications industry, Australia, November 1987–November 1997 (ABS labour force survey)



Source: ABS, *Labour force, Australia*, cat.6203.0, 1987–1997

There is evidence that the telecommunications sector is growing rapidly, with a claimed rate of growth in 1996 five times that of the economy as a whole.[2] The partial privatisation of Telstra and proposals for its full privatisation will continue to be central to further deregulation of the industry. Data on the telecommunications industry are not readily available. However, the following extract from a publication of the Bureau of Industry Economics provides some idea of the main dimensions of that sector.

> *In Australia the telecommunications services market was worth some $14.6 billion in 1994 (excluding equipment) and is growing at between 8% and 9% annually… new markets like mobile telephony are exhibiting even more rapid growth.*
>
> *Telecommunications revenue accounts for a growing share of gross domestic product (GDP). Australia is above the international average in terms of public telecommunications revenue as a percentage of GDP at 3.2% in 1992, compared to an Organisation for Economic Co-operation and Development (OECD) average of 2.1% and an International Telecommunications Union (ITU) world average for 1991 of 1.8%. Among OECD countries Australia's telecommunications revenue share of GDP is second only to New Zealand. Australia is also enjoying faster than*

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[2] Commonwealth Department of Communications and the Arts, <www.dca.gov.au/policy/fs/factsheet.html>

OECD average growth in the share of telecommunications in GDP. This indicates the importance of telecommunications in the Australian economy.[3]

The new legislative framework establishes two types of entities in the telecommunications system, carriers and service providers. Simply put, carriers need to hold a licence to own certain telecommunication facilities, while service providers can either provide services such as telephones through networks owned by carriers or be content service providers supplying, for example, pay TV services.

Apart from the telecommunications industry, the major business in this industry is Australia Post. Established in 1975, Australia Post is a self-funding government business enterprise, increasingly being exposed to competition from private businesses. It has about 4400 outlets nationally, employing over 32 000 full-time workers and 5600 part-timers, making it the seventh largest employer in Australia. This means that it accounts for more than 25% of all jobs in this industry.

Given that Telstra employs about 66 100 full-time staff, this means that there are about 40 000 persons employed in the other areas of telecommunications and in courier services across Australia.[4]

Employment characteristics of the industry

The communications industry has a workforce grouped in the middle-age groups, with 57.3% of the industry's workforce aged 35–54. Only 46.7% of the total workforce is aged in this range. A slightly lower than average proportion of the workforce is overseas born—22% compared with 24% for the total workforce. Only 10.5% of the industry's workforce is aged under 25, compared with their total workforce share of 18.4%.

Table 10.2 shows the distribution of employment in the industry by State and Territory as at 1995. New South Wales and Victoria account for 63% of all the jobs in this industry. In relation to each State's share of jobs, shown in table 10.3, the industry is most concentrated in Victoria, South Australia and New South Wales, with all the other States and Territories having proportionally fewer jobs in this industry than their overall share of total employment.

Table 10.2: Employment ('000s) in communications by State/Territory, 1995

	NSW	Vic	Qld	SA	WA	Tas	NT	ACT
Males	35.2	27.5	16.8	8.4	7.8	2.3*	0.9*	2.0*
Females	15.5	13.6	5.8	3.9	4.1	0.6*	0.3*	0.8*
Total	**50.7**	**41.1**	**22.6**	**12.4**	**11.9**	**2.9***	**1.2***	**2.8***

Note: *Subject to sampling variability too high for most practical uses

Source: ABS, *Labour force, Australia*, cat.6204.0, 1995

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[3] Bureau of Industry Economics, research report 65, *International performance indicators telecommunications 1995*

[4] Telstra share offer document

Table 10.3: Share of employment in communications by State, by share of total jobs, 1995

State	Share of jobs in communications industry %	% employed in all industries
NSW	34.8	33.1
Vic	28.2	24.7
Qld	15.5	18.3
SA	8.5	8.0
WA	8.2	10.1
Tas	2.0	2.4
NT	0.8	1.0
ACT	1.9	2.0
Total	**100.0**	**100.0**

Source: ABS, *Labour force, Australia*, cat.6204.0, 1995

Occupational composition

The following table shows the occupational composition of the industry in comparison with the total workforce.

Table 10.4: Occupational profile communications industry and total workforce, Australia, November 1997

Occupation group	Communications %	Total workforce %
Managers and administrators	3.2	7.6
Professionals	7.6	17.4
Associate professionals	10.2	10.5
Tradespersons and related	18.6	13.2
Advanced clerical and service	2.2	4.5
Intermediate clerical/sales/service	16.0	17.1
Intermediate production/transport	11.8	9.2
Elementary clerical/sales/service	29.4	10.5
Labourers and related	1.1	10.1
Total	**100.0**	**100.0**

Source: ABS, *Labour force, Australia*, cat.6203.0, November 1997

There are several features that distinguish the composition of the communications workforce from the total workforce. Communications has a below-average share of workers in the managers and professionals categories, with only 10.8% of the industry's workforce, as against 25% of the total workforce, in these areas.

The very low proportion of workers in the labourers category is also quite striking. Because of the changed occupational code, it is difficult to say how much this 1997 figure represents a drop from 1987. However, using the older occupational code, it is likely that labourers' share of total industry jobs has declined by around 40%.

On the other hand, there are two occupational areas where there is a disproportionately high share of jobs in communications—in the trades area and, particularly, in the elementary clerical, sales and service category, having a share almost three times that of the whole labour force.

Given this distribution of occupations in the industry, it is surprising to compare this pattern with the following table, which shows the level of qualifications held by workers in the industry as at May 1997. What is striking about the comparison is the low proportion in the communications industry holding a trade-level qualification, only 9.5% of the industry's workforce, despite the fact that a high proportion of the industry's workforce, 18.6%, is classified as tradespersons.

Table 10.5: Qualifications of communications industry workers, percentage distribution, Australia, May 1997

	Bachelor's degree or higher	Diploma/ associate diploma	Skilled vocational	Basic vocational	Without post-school quals.
Communications	11.8	11.2	9.5	9.1	60.0
Total industry	**17.2**	**9.0**	**12.6**	**9.4**	**49.4**

Source: ABS, *Transition from education to work*, cat.6227.0, May 1997

The other significant feature of the qualification profile is the high proportion of workers without any formal post-school credential. At 60% this proportion is more than ten percentage points above the total workforce. More information on this would be useful in determining whether there is a genuine problem of formal skill shortages in the industry, leading to those lacking formal qualifications working in skilled occupations. On the other hand, many of those working at this level could be self-taught, skilled workers who would be eligible for formal recognition of their skills through a recognition of prior learning (RPL) process.

This situation contrasts with the transport industry, where there are far more workers with trade qualifications than there are trade-level jobs. It is interesting to speculate whether this indicates a fundamental shortcoming of the labour market and the training system to match training arrangements to real industry needs. It would seem to indicate an inefficiency in these systems that occupational and skills profiles are so much at odds.

Occupational trends and skills shortages

Between 1987 and 1996 employment in communications grew 19.3%. Since 1996, employment has declined by over 18 000 jobs. Unfortunately, a comparison of occupational changes is only possible at the detailed level over the period up to 1996 as the coding of occupations changed after that date. Therefore, the following analysis, while probably valid in broad terms, exaggerates the degree of growth within most occupations.

At the broad occupational level, the most striking change in the composition of the communications industry was the growth in jobs designated as managers or professionals. Over that period the number of jobs in these categories grew by about 12 000 or 88%. Nevertheless, as shown above, the industry still has a relatively low proportion of workers in these higher-level occupations.

While not as great in total, the growth in percentage terms of sales and personal service workers was even more pronounced, rising from just 1400 in 1987, or 1% of the industry's jobs, to 10 300 in 1996—over 6% of all jobs in the industry.

Over the same period the number of para-professionals, tradespersons and labourers declined in total by 15%, with job losses amounting to 2500 for para-professionals, 4300 for tradespersons and 1900 for labourers. This changed occupational profile has probably contributed to the increased female share of employment over the period November 1987 to November 1997. The female share of jobs in the industry rose from 25.9% in 1987 to 32.2% in 1997, with the number of females rising by around 10 000, while the number of males in the industry declined by over 5000.

This change in the occupational structure seems to indicate that the industry is becoming less reliant on technical skills, as would be represented by para-professionals and trade-level workers, and is becoming more reliant on sales and personal service workers.

Advice from the industry has indicated that training of the existing workforce is a high priority in the telecommunications part of this industry. The above analysis appears to support this view. Specific skills that have been identified as being priorities for training include cabling of customer premises, switching and networking and customer access networking. There does not appear to be evidence of skills shortages emerging in the other parts of the industry.

In the 1997 ESS, employers were asked to identify whether there were sufficient VET graduates to meet their needs. Employers in the communications industry largely answered 'yes' (73.3%), indicating no widespread view that there are skill shortages at the level addressed by the VET sector.

Those employers in the minority saying that there were insufficient graduates identified the para-professional level overwhelmingly as the area of shortage. No further details were available as to the type of para-professional in shortage. Looking at the occupational profile of the industry, it is most likely that these shortages would be in the computing and electronics technician areas.

The relevant national industry training advisory body (ITAB) is the telecommunications, postal services, information technology and printing ITAB, InfoComP Training. It covers communications as defined by the Australian Bureau of Statistics (ABS), together with printing and information technology, which are not part of this industry as defined by the ABS. In 1997 this ITAB reported to the Australian National Training Authority (ANTA) on skill shortages. In relation to the communication industry it said:

> *Telecommunications is experiencing significant growth which, together with technological change, is changing both the shape and work practices of the industry. Occupational groups in which there are national skill shortages include systems designers and engineers, electrical and electronic engineers, telecommunications software specialists, telemarketers, radio frequency specialists and customer support officers.*

Areas of skill shortage in postal services are retailing, merchandising, mail processing and leadership development.

Hours of work and earnings

Despite having fewer than 13% of the industry's workforce employed as part-timers, the average weekly hours worked in communications is relatively low at 35 hours. In this the industry appears to have defied the trend elsewhere in the Australian labour market of growth at either end of the hours worked spectrum. Only 29.7% of males in the communications industry worked, on average, 45 hours or more per week, compared with an all-industry average of 38% in November 1997. By contrast, nearly 36% of males in the communications industry worked 35–40 hours, on average, compared with just 31.2% of males across all industries.

Table 10.6: Communications industry employment, by sex and hours worked, Australia, November 1997

	Full-time ('000s)		**Part-time ('000s)**		**Total ('000s)**	
	No.	%	No.	%	No.	%
Males	94.6	72.9	6.3	33.2	100.9	67.8
Females	35.2	27.1	12.7	66.8	47.9	32.2
Total	**129.8**	**100.0**	**19.0**	**100.0**	**148.8**	**100.0**

Source: ABS, *Labour force, Australia*, cat.6203.0, 1997

As shown in the above table, the industry is relatively male dominated, with males making up nearly 68% of the workforce, compared with their overall share of 56.6%. Part-time employment accounts for only 12.8% of jobs, again a relatively low share when compared with the part-time share of all jobs which is 25.8%.

Despite the relatively short full-time working hours in the industry, adult male non-managerial average weekly full-time earnings in May 1996 were, at $777.10, 6.5% above the average of $729.70. The equivalent rate for females was $676.30, again well above the average of $605.70. The average weekly full-time non-managerial earnings for all persons was $746.80, making this the third highest paid industry behind mining, and electricity, gas and water.

- Communications is a small industry undergoing quite rapid change in its occupational composition.
- Employment overall in this industry has fluctuated markedly over the last decade but has not grown significantly.
- A high proportion of the industry's workforce lacks formal post-school qualifications.
- The occupational profile of the idustry does not fit the qualifications profile—there appears to be a substantial number of trade-level workers without trade qualifications.

Training in communications

Communications is one of the defined training areas as used by ANTA in the identification of the allocation of government training funds. In 1996 ANTA estimated that about 0.8% of total government training funds under the ANTA agreement would be allocated to the communications industry.[5] A similar amount was expected to be allocated in 1997.

While this would appear to be a low share, given that the industry accounts for about 1.7% of the Australian workforce, it should be noted that the allocation of industry-specific funds accounts for only about 58% of the total. The remaining funds are allocated to such areas as *computing* and *business and clerical*, both areas that would be relevant to the skill needs of the sector.

Unfortunately, neither the field of study codes nor the discipline codes used in the enrolment of students under the Australian Vocational Education and Training Management Information Statistical Standard (AVETMISS) allows for the clear identification of those students likely to be studying courses associated with this industry.

Employer satisfaction with VET

In the 1997 ESS there were 71 employers surveyed who were defined as being in the communications industry. This was lower than the average number of employers surveyed in other industries and might make these results less reliable than for some other industry sectors.

Mean satisfaction scores with VET across all industries ranged between 5.7 and 7 out of a possible 10. The communications industry recorded a mean satisfaction level of 6.7. Only three industries scored lower than this, although seven industries recorded this score. Satisfaction with TAFE, as a sub-set of the VET system, was the same at 6.7 (mean for all industries was 6.6). Variations between States and Territories were not pronounced, ranging from a low of 6.3 in Western Australia to a high of 7.5 in the Northern Territory.

In this survey, employers were also asked to identify the areas in which the VET sector needed to improve its service. Responses from employers in this industry were heavily concentrated in two of the 12 categories. They were more likely than employers in any other industry to identify the *relevance of course content* as the major area in need of improvement and they were among the highest industry groups to identify *graduates' work ethic* as needing improvement. Whether this latter issue can be addressed by the VET sector is, of course, debatable.

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[5] See table A10.1 in the notes at the end of this chapter

VET graduates in communications

The TAFE GDS, conducted in 1997, received responses from 506 graduates who were employed in the communications industry at the time of the survey. This represented 1.2% of all employed graduates, down marginally from the 1.3% employed in the industry at the 1995 survey.

Graduates working in this industry were among those giving the lowest rating to their course in terms of its relevance to their employment. Only 33% rated their course as 'very relevant' to their employment, the second lowest rating of all industries, while a further 33% rated the course 'of some relevance'. When the two ratings of 'very relevant' and 'of some relevance' were combined, the outcome still placed this rating as the second lowest out of the 17 industry groups. When combined with the relatively low rating given by employers in the ESS this appears, overall, to be an industry that is quite dissatisfied with VET provision.

Graduates were asked to rate on a 10-point scale a number of aspects of their course. Those working in communications rated every item noticeably below the average score of all graduates. The following analysis compares the proportion giving a score of 7 or better on the 10-point scale working in communications with all graduates.

Table 10.7: Rating of course by graduates employed in communications and all graduates

Issue	Communications	All employed graduates
Instructors' knowledge	80.3	85.2
Course content reflects industry practice	66.2	72.2
Presentation of material	66.6	73.2
Quality of equipment	51.2	62.2
Sufficient equipment	51.4	60.0
Info on choosing course	55.9	58.6
Info on careers/jobs	27.1	41.1
Usefulness for job prospects	66.4	71.8
Qualification well regarded by employers	59.2	64.9
Balance instruction and practice	64.3	69.8
Assessment method understood	75.8	78.5
Time/venue convenience	72.9	75.3
Overall course quality	79.9	84.1

Source: NCVER, 1997 TAFE graduate destination survey, unpublished data

From the above table it is clear that graduates working in communication were much less happy with their course than graduates in general. Of greatest concern from this table are the following issues:

- quality of equipment for practising skills
- availability of equipment for practising skills
- information on careers and job prospects

While the first two appear to be issues more specific to this industry and are understandable, given the high rate of technological change in the industry and the difficulty of maintaining state of the art equipment in TAFE colleges, the last issue is one that arises in every industry sector.

It is apparent, nevertheless, that graduates in this industry are relatively more critical of the provision of career information than graduates generally. Again, this might be related to the greater difficulty of keeping information on a rapidly changing industry current. However, there is a clear message that TAFE graduates are very dissatisfied with the quality of career information, and those in the more technology-oriented industries more so.

Employment outcomes

Of the surveyed graduates employed in communications, over 60% were located in New South Wales. While an average proportion of these graduates, about 22%, had attained a certificate (other)—the most common award among all those surveyed—a significant proportion, 17.8% had obtained an associate diploma and a further 15.8% a comparable Australian Qualification Framework (AQF) level IV certificate. This means that, proportionally, graduates entering communications had higher-level credentials than had those entering all other industries.

Graduates working in the industry who were employed during their final semester were less likely than average to have received financial support from their employer. Only 45.4% compared with 51.1% of all graduates received employer support, mostly as paid fees or as paid time off work to attend classes. This made communications among the least supportive industries.

Of those working in communications, almost 75% already had a job by graduation while the remainder working in the industry found their job more quickly than the average employed TAFE graduate. Only 6.9% of those working in the industry took more than three months to find their job. These graduates appeared also to be a little more experienced in the workforce than the average employed graduate, with their current job being the first full-time job for only 21% of them. A well-above-average proportion, 83.2%, working in communications were employed on a full-time basis. This compared with only 66.6% of all graduates.

Reflecting the fact that graduates working in communications had generally had prior work experience, their most common motivation for doing their TAFE course was to get a better job or a promotion. The following table shows the main reason for doing the course and the proportion who either fully or partly achieved their aim.

Table 10.8: TAFE graduates working in communications—reasons for doing course and achievement of aim

Reason	Fully achieved (%)	Partly achieved (%)
Get a job	57.3	19.1
Try for different career	44.8	19.0
Get better job/promotion	37.9	28.6
Requirement of job	78.8	9.1
Get extra skills	64.6	29.3
Personal interest	77.8	12.7

Source: NCVER, 1997 TAFE graduate destination survey, unpublished data

Graduates working in communications were among the best paid graduates of all industries. This is not all that surprising considering the relatively high level of qualifications attained and the quite high pay rates applying generally in the industry. Male graduates working full time were earning, on average, $793, the second highest rate behind those working in mining. Females working full time earned $604 or $189 per week less than males.

While female graduate full-time earnings were lower than their male equivalents in every industry sector, this is one of the larger discrepancies on a par with transport and storage, although the disparity is much less than in mining.

Further analysis of sex differences in choice of course and more detailed information on actual occupation of employment by sex would be valuable in identifying the reasons for such wide disparities in income. As a general conclusion it appears that VET access is not achieving significant reductions in occupational gender segregation or improvement in income equity in a number of industries.

Employer support for training

In the September quarter of 1996, the ABS undertook the employer training expenditure survey (cat.6353.0), a survey of employer-provided structured training. A similar survey was undertaken three years previously. Employers in communications were found in the 1996 survey to be spending $318 per employee on training, well above the all-industry average of $185. This, however, represented a large decline, almost 30%, from their level of expenditure in 1993. At that time, when the Training Guarantee legislation was in place, they spent $452 per employee. All industry training expenditure per employee declined over the same period, but only by 3%.

Communications industry employers provided 6.34 hours of training per employee in the September quarter of 1996, again well above the all-industry average of 4.91 hours but well below the level provided in 1993 by the communications industry of 9.19 hours.

Expressed as a percentage of gross wages and salaries spent on training, the industry also reduced its training commitment over the three-year period. In 1993 the industry allocated 5.42% of total gross wages and salaries to training, the highest of all industries at that time. In 1996 that proportion had fallen to 3.23%, making communications only the sixth highest spenders on training when measured in this way.

The ABS employer training practices survey (cat.6356.0) looked at employer provision of both structured and unstructured training over a 12 month period in February 1997. It indicated that employers generally, including those in communications, had increased their training expenditure over the previous year, with 19% of communications employers compared with 18% of all employers having increased their provision of structured training.

- The industry appears to receive a less than pro rata share of government training funds.
- Employers in the communications industry are relatively dissatisfied with the provision of VET, citing the relevance of course content and graduates' work ethics as two priority areas for improvement.
- TAFE graduates working in the industry were also dissatisfied with their course, identifying a lack of access to equipment on which to practise their skills as a major cause of dissatisfaction.
- While employers in the industry spend above-average amounts on structured training, their effort has declined since 1993 when this was the pre-eminent industry for expenditure on structured training.

Some training issues in communications

- What strategies should be put in place to retrain those workers in the industry most affected by technological change or requiring formal qualifications in new disciplines to remain in the industry?
- Should the VET sector be concerned over the wide disparity in earnings between male and female TAFE graduates working in the industry, a disparity greater than for males and females in general working in the industry?
- How can the VET sector better anticipate demand for new and emerging skills in an industry marked by rapid technological change and rapid shifts in the occupational composition of the industry?
- With a relatively small proportion of the industry's workforce aged under 25, what measures can be taken to encourage the greater use of structured training targetted at younger people in the industry?
- Should the proportion of government funds allocated specifically to communications be increased to put it more in line with the industry's share of total employment? Should the reduction in the industry's own effort, noted between 1993 and 1996, be seen as an offset for any increase in government funding and, therefore, prevent any government increase until the industry resumes 1993 levels of funding?
- There appears to be a priority to upgrade equipment provided in TAFE colleges for students destined for employment in the communications industry.

- This industry highlights some of the shortcomings in VET statistical collections. While the ANTA designated 'training areas' category allows an identification of funds allocated to the industry's training needs, AVETMISS data does not allow the identification of students currently enrolled in courses related to this expenditure.
- The national VET plan produced in 1997 by the national ITAB covering this industry as well as the printing industry, which is defined by the ABS as part of manufacturing, identified the following emerging VET issues:

> *The demands of both new and converging technologies need to be met. Technologies such as the internet, ISDN (network digitalisation), asynchronous transfer mode, computer telephony integration and teleworking all exist in the telecommunications area. They are in their infancy but will grow rapidly. Considerable research is needed in order to identify the future needs for skills within Australia, and to find the most efficient way of transmitting those skills to the workforce.*
>
> *The industries need to prepare for the drive into the developing South East Asian and Pacific markets.*
>
> *Studies should be undertaken to determine both the requisite skills and the demand for such skills to meet the technological challenge of the converging industries. As printing, telecommunications and information technology move towards convergence, it is critical that efforts be made to identify not only the demands for current skills, but also new skills and the probable demand for them.*

The national ITAB highlighted the following issues as industry priorities:

- Technological change is resulting in significant changes to work practices and to the shape of the workforce.
- Considerable research is necessary to identify future needs for skills, and the most efficient way of transmitting those skills.
- The workforce's skills, and business and management practices, need to be improved and refined.
- Links need to be forged with both the small business community and regional communities.
- Training packages need to be developed to meet the needs of trainees, employers and industry.

Notes

The following table is extracted from the ANTA resource allocations for 1997 document, available at their website. It shows the planned allocations of government-funded training between the ANTA-defined 'training areas' in terms of 'annual hours curriculum' (AHC).

Table A10.1: Key national shifts in activity between 1996 revised estimates and 1997 projected activity (AHC '000s)

Industry training area	1996 revised	1997 projected	Total increase	Total increase as % of 1996 revised	% of overall increase
Category A					
Arts, Entert, Sports and Rec	11 408	11 928	520	4.6	5.5
Automotive	8 221	8 576	355	4.3	3.7
Building and Construction	18 785	19 009	224	1.2	2.4
Comm Services, Health and Ed	20 910	22 382	1 471	7.0	15.5
Finance, Banking and Insurance	3 420	3 468	48	1.4	0.5
Food Processing	2 454	2 851	396	16.1	4.2
TCF and Furnishings	5 714	5 813	100	1.7	1.0
Communications	1 883	1 963	80	4.3	0.8
Engineering and Mining	15 654	16 607	952	6.1	10.0
Primary Industry	11 874	12 217	343	2.9	3.6
Process Manufacturing	397	479	82	20.6	0.9
Sales and Personal Service	6 527	6 752	225	3.4	2.4
Tourism and Hospitality	16 707	18 151	1 444	8.6	15.2
Transport and Storage	1 686	1 851	164	9.8	1.7
Utilities	11 898	12 145	247	2.1	2.6
Category B					
Business and Clerical	42 412	43 117	705	1.7	7.4
Computing	11 969	12 641	672	5.6	7.1
Science, Technical and Other	6 727	6 870	143	2.1	1.5
Category C					
Gen Education and Training	40 046	41 212	1 166	2.9	12.3
Unallocated	622	779	157	25.2	1.6
Total	**239 316**	**248 810**	**9 494**	**4.0**	**100.0**

Note: TCF – textiles, clothing and footwear

Source: Publications, *ANTA Resource Allocations 1997*, <www.anta.gov.au>

Table A10.2: Employed persons by occupation in the communication services industry, 1987 and 1996

Occupation (ASCO 4-digit)		1987 ('000s)	1996 ('000s)	Change 1987 to 1996 ('000s)	Change 1987 to 1996 Average annual %
1599	Other managing supervisors (sales and service)	4.2	2.7	-1.5	-4.9
2707	Computing professionals	1.7	6.6	4.9	16.8
3201	Electrical and electronic engineering assoc./technicians	9.3	6.6	-2.7	-3.8
4311	Communications equipment tradespersons	33.4	27.6	-5.8	-2.2
5201	Data processing machine operators	2.9	7.0	4.1	10.6
5301	Accounting clerks	7.7	7.6	-0.1	-0.1
5403	Mail sorters	8.7	13.5	4.8	5.1
5601	Receptionists and information clerks	1.4	7.5	6.1	21.1
5603	Telephonists	7.1	6.9	-0.2	-0.3
5605	Messengers and delivery clerks	11.6	13.3	1.7	1.6
5909	Postal clerks and officers	11.0	6.0	-5.0	-6.7
5999	Other clerks	5.6	0.9	-4.7	-18.9
6301	Sales assistants	0.3	6.0	5.7	40.8
7105	Truck drivers	5.2	14.4	9.2	12.3
Other occupations		31.2	41.9	10.7	3.4
Total all occupations		**141.3**	**168.5**	**27.2**	**2.0**

Notes: As estimates of less than 3500 are subject to high statistical error, they are listed against specific occupations only where there was a higher estimate in either 1987 or 1996. Where estimates of less than 3500 were recorded for both 1987 and 1996, they are included in the 'other occupations' category.

ASCO—Australian Standard Classification of Occupations

Source: ABS labour force survey, unpublished data

Table A10.3: Educational attainment of employed persons by industry, occupation (1-digit ASCO) and type of post-school qualification at 1996 Census

Communication services	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
ASCO code and occupation									
1 Managers and Administrators	2 780	376	639	954	525	5 274	414	2 829	8 517
2 Professionals	6 981	569	1 116	1 074	550	10 290	659	3 986	14 935
3 Associate Professionals	1 850	733	3 136	6 218	1 523	13 460	1 335	8 740	23 535
4 Tradespersons and Related Workers	374	223	964	7 538	619	9 718	1 491	10 040	21 249
5 Advanced Clerical and Service Workers	188	88	116	97	258	747	279	1 457	2 483
6 Intermediate Clerical, Sales and Service Workers	1 941	536	801	1 108	919	5 305	1 327	12 666	19 298
7 Intermediate Production and Transport Workers	380	238	221	2 989	357	4 185	985	12 134	17 304
8 Elementary Clerical, Sales and Service Workers	2 206	672	739	3 024	1 061	7 702	2 484	28 340	38 526
9 Labourers and Related Workers	47	23	22	177	37	306	151	1 815	2 272
0 Inadequately described	103	30	38	180	60	411	111	903	1 425
Not stated	35	8	16	71	18	148	119	377	644
Not applicable	–	–	–	–	–	–	–	–	–
Total	**16 885**	**3 496**	**7 808**	**23 430**	**5 927**	**57 546**	**9 355**	**83 287**	**150 188**

Source: ABS, 1996 Census of population and housing

Table A10.4: Educational attainment of employed persons by industry, occupation (3-digit ASCO) and type of post-school qualification at 1996 Census

Communication services ASCO code and occupation	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
100 Managers and Administrators not further defined nfd	210	43	69	148	76	546	67	522	1 135
110 Generalist Managers nfd	0	0	0	0	0	0	0	0	0
111 General Managers and Administrators	332	44	67	85	51	579	49	284	912
119 Miscellaneous Generalist Managers	21	5	10	25	15	76	4	37	117
120 Specialist Managers nfd	62	8	7	17	11	105	9	56	170
121 Resource Managers	460	47	95	65	70	737	60	450	1 247
122 Engineering, Distribution and Process Managers	899	122	248	409	186	1 864	150	890	2 904
123 Sales and Marketing Managers	516	70	68	81	65	800	40	386	1 226
129 Miscellaneous Specialist Managers	276	35	75	119	49	554	34	181	769
131 Farmers and Farm Managers	3	3	0	5	0	11	0	22	33
200 Professionals nfd	103	3	10	17	6	139	5	51	195
210 Science, Building and Engineering Professionals nfd	3	0	0	0	0	3	0	0	3
211 Natural and Physical Science Professionals	27	0	0	3	0	30	0	5	35
212 Building and Engineering Professionals	2 025	122	249	213	51	2 660	112	199	2 971
220 Business and Information Professionals nfd	27	3	3	4	0	37	0	18	55
221 Accountants, Auditors and Corporate Treasurers	764	39	102	14	35	954	66	281	1 301
222 Sales, Marketing and Advertising Professionals	697	86	130	161	100	1 174	95	845	2 114
223 Computing Professionals	2 145	165	384	386	200	3 280	192	1 197	4 669
229 Miscellaneous Business and Information Profs	823	91	185	203	125	1 427	133	1 074	2 634
230 Health Professionals nfd	0	0	0	0	0	0	0	0	0
231 Medical Practitioners	6	0	0	0	0	6	0	0	6
232 Nursing Professionals	6	10	3	0	0	19	5	0	24
238 Miscellaneous Health Professionals	3	0	0	0	0	3	0	3	6
240 Education Professionals nfd	0	0	0	0	0	0	0	0	0

Communication services	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
ASCO code and occupation									
241 School Teachers	6	0	3	0	0	9	0	6	15
242 University and Vocational Education Teachers	4	0	3	5	0	12	3	17	32
249 Miscellaneous Education Professionals	25	4	7	10	0	46	12	36	94
250 Social, Arts and Miscellaneous Professionals nfd	0	0	0	0	0	0	0	0	0
251 Social Welfare Professionals	36	3	4	0	3	46	5	17	68
252 Miscellaneous Social Professionals	102	3	3	3	0	111	5	22	138
253 Artists and Related Professionals	147	27	25	42	18	259	21	179	459
254 Miscellaneous Professionals	33	9	8	11	9	70	5	34	109
300 Associate Professionals nfd	20	8	28	86	22	164	12	129	305
310 Science/Engineering and Related Assoc Profs nfd	9	14	67	110	29	229	19	29	277
311 Medical and Science Technical Officers	14	0	7	5	5	31	3	17	51
312 Building/Engineering Associate Professionals	314	331	2 400	5 032	921	8 998	642	1 780	11 420
320 Business and Administrative Assoc Profs nfd	3	0	3	3	0	9	0	5	14
321 Finance Associate Professionals	86	11	15	8	9	129	7	79	215
329 Miscellaneous Business/Admin Assoc Profs	965	209	419	455	317	2 365	337	3 038	5 740
330 Managing Supervisors (Sales and Service) nfd	3	3	0	5	0	11	3	25	39
331 Shop Managers	43	10	13	25	14	105	24	238	367
332 Hospitality and Accommodation Managers	0	0	3	14	0	17	6	16	39
339 Miscellaneous Mngr. Supervisors (Sales and Service)	364	131	170	436	183	1 284	258	3 168	4 710
340 Health and Welfare Assoc Professionals nfd	0	0	0	0	0	0	0	0	0
341 Enrolled Nurses	0	0	0	0	0	0	0	0	0
342 Welfare Associate Professionals	0	0	0	0	0	0	0	3	3
349 Miscellaneous Health and Welfare Associate Profs	0	0	0	0	0	0	0	0	0
390 Other Associate Professionals nfd	0	0	0	0	0	0	0	0	0
391 Police Officers	0	3	0	0	3	6	0	5	11
399 Miscellaneous Associate Professionals	29	12	13	38	18	110	24	208	342

Communication services	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
ASCO code and occupation									
400 Tradespersons and Related Workers nfd	13	3	42	173	15	246	20	88	354
410 Mechanical/Fabrication Engineering Trades nfd	0	0	0	0	0	0	0	0	0
411 Mechanical Engineering Tradespersons	3	0	3	113	3	122	10	26	158
412 Fabrication Engineering Tradespersons	0	0	0	7	0	7	0	7	14
421 Automotive Tradespersons	3	0	0	167	0	170	9	21	200
431 Electrical and Electronics Trades	338	207	910	6 964	595	9 014	1 425	9 696	20 135
440 Construction Tradespersons nfd	0	0	0	0	0	0	0	0	0
441 Structural Construction Trades	3	0	0	49	0	52	9	60	121
442 Final Finishes Construction Trades	0	0	0	8	0	8	3	7	18
443 Plumbers	0	0	0	11	0	11	0	6	17
451 Food Tradespersons	0	0	3	3	0	6	3	6	15
460 Skilled Agricultural/Horticultural Workers nfd	0	0	0	0	0	0	0	0	0
461 Skilled Agricultural Workers	0	0	0	0	0	0	0	0	0
462 Horticultural Tradespersons	0	3	0	5	0	8	3	28	39
490 Other Tradespersons and Related Workers nfd	0	0	0	3	0	3	0	3	6
491 Printing Tradespersons	3	3	0	5	0	11	3	29	43
492 Wood Tradespersons	0	3	0	3	0	6	0	3	9
493 Hairdressers	0	0	0	8	0	8	0	3	11
494 Textile, Clothing and Related Trades	0	0	0	3	0	3	0	5	8
498 Miscellaneous Tradespersons and Related Wkrs	14	5	5	19	6	49	8	57	114
500 Advanced Clerical and Service Workers nfd	8	0	0	0	0	8	0	0	8
511 Secretaries and Personal Assistants	89	63	58	29	204	443	220	829	1 492
590 Other Advanced Clerical and Service Wkrs nfd	0	0	0	0	0	0	0	3	3

Communication services ASCO code and occupation	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
591 Advanced Numerical Clerks	77	19	53	29	46	224	46	502	772
599 Miscellaneous Advanced Clerical and Service Wkrs	15	6	5	37	8	71	13	122	206
600 Intermediate Clerical, Sales and Service Wkrs nfd	3	0	3	3	3	12	0	17	29
610 Intermediate Clerical Workers nfd	3	0	0	3	4	10	0	25	35
611 General Clerks	264	92	115	247	163	881	305	2 918	4 104
612 Keyboard Operators	126	46	83	97	91	443	170	1 239	1 852
613 Receptionists	42	18	20	16	50	146	71	480	697
614 Intermediate Numerical Clerks	178	48	100	115	62	503	104	1 062	1 669
615 Material Record and Despatch Clerks	80	30	51	143	52	356	88	861	1 305
619 Miscellaneous Intermediate Clerical Workers	1 024	245	387	379	433	2 468	506	5 428	8 402
621 Intermediate Sales and Related Workers	212	55	41	96	56	460	66	577	1 103
630 Intermediate Service Workers nfd	0	0	0	0	0	0	0	0	0
631 Carers and Aides	5	3	0	5	3	16	5	29	50
632 Hospitality Workers	0	0	0	3	0	3	7	16	26
639 Miscellaneous Intermediate Service Workers	3	0	3	3	3	12	3	14	29
700 Intermediate Production and Transport Wkrs nfd	3	3	3	11	0	20	3	39	62
710 Intermediate Plant Operators nfd	0	0	0	0	0	0	0	19	19
711 Mobile Plant Operators	1	0	0	28	3	34	18	170	222
712 Intermediate Stationary Plant Operators	0	0	3	0	0	3	4	17	24
720 Intermediate Machine Operators nfd	7	13	10	56	18	104	42	339	485
721 Intermediate Textile/Clothing/Related Mach Ops	0	0	0	0	0	0	0	6	6
729 Miscellaneous Intermediate Machine Operators	0	0	3	5	0	8	0	8	16
731 Road and Rail Transport Drivers	348	218	197	2 753	286	3 802	868	10 970	15 640

Communication services	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
ASCO code and occupation									
790 Other Intermediate Prod'n and T'port Wkrs nfd	0	0	0	0	0	0	0	3	3
791 Intermediate Mining and Construction Wkrs	3	3	0	42	28	76	15	88	179
799 Misc Intermediate Prod'n and Transport Wkrs	19	4	10	90	20	143	34	477	654
800 Elementary Clerical, Sales and Service Wkrs nfd	10	3	3	6	9	31	18	149	198
811 Elementary Clerks	1 601	459	556	2 672	753	6 041	1 929	22 550	30 520
820 Elementary Sales Workers nfd	0	0	0	0	0	0	0	7	7
821 Sales Assistants	501	183	155	284	273	1 396	459	5 082	6 937
829 Miscellaneous Elementary Sales Workers	81	23	22	34	22	182	56	398	636
831 Elementary Service Workers	8	5	3	27	4	47	21	154	222
900 Labourers and Related Workers nfd	3	0	3	15	4	25	13	117	155
911 Cleaners	17	14	7	59	18	115	77	1 102	1 294
920 Factory Labourers nfd	0	0	0	0	0	0	0	0	0
921 Process Workers	6	3	3	9	3	24	6	80	110
922 Product Packagers	1	0	0	7	4	14	4	53	71
990 Other Labourers and Related Workers nfd	0	0	0	0	0	0	0	0	0
991 Mining, Construction and Related Labourers	3	3	5	44	7	62	25	252	339
992 Agricultural and Horticultural Labourers	0	0	0	0	0	0	3	6	9
993 Elementary Food Preparation and Related Wkrs	0	0	0	3	0	3	5	54	62
999 Miscellaneous Labourers and Related Workers	10	3	6	42	0	61	18	151	230
099 Inadequately described	103	30	38	180	60	411	111	903	1 425
Not stated	35	8	16	71	18	148	119	377	644
Not applicable	–	–	–	–	–	–	–	–	–
Total	**16 881**	**3 498**	**7 821**	**23 427**	**5 918**	**57 545**	**9 352**	**83 290**	**150 187**

Note: nfd – not further defined

Source: ABS: 1996 Census of population and housing

11 Finance and insurance

THE FINANCE AND insurance industry is one of the smaller industries in terms of employment, with 307 500 persons or 3.6% of total Australian employment.[1] The level of employment in the industry rose to a peak in the late 1980s and has since declined by about 5.5%. The jobs loss has been more or less evenly shared between the two main sub-divisions in the industry, finance and insurance, while this job loss has been partially offset by a rise in the services to finance and insurance.

Despite declining employment levels overall, the industry's business levels have grown very strongly over recent years. The industry has been subject to substantial rationalisation and deregulation and it is likely that these factors will continue to produce further reductions in the number of jobs in the industry.

Despite the general reduction in jobs there has been growth in jobs in the management, professional and sub-professional areas, together with sales and personal service jobs, while the main job losses have occurred in keyboard and clerical areas. Workers in the industry, nevertheless, are more likely than most workers to lack formal post-school qualifications.

The industry is concentrated in New South Wales and, to a lesser extent, Victoria. New South Wales accounts for 41.5% of the industry's jobs and Victoria 27.5%. While these two States account for 57.6% of all jobs, they account for 69% of jobs in finance and insurance.

The industry is one of only five of the 17 industry divisions in which females outnumber males, with women making up nearly 55% of all workers. The female share of jobs in the industry has risen from 51% in 1987. The industry is predominately made up of full-time workers (82%), with deposit-taking financiers making up just over half of all employees in the sector. The industry employs only a small proportion of teenagers—only 1.3% of the industry.

In the survey on employer satisfaction with vocational education and training for 1997 (ESS), compiled by the National Centre for Vocational Education Research (NCVER), employers in the industry generally expressed below-average levels of satisfaction with the provision of vocational education and training (VET) when surveyed in 1997. Their main priorities for improvement were to make the content of courses more relevant to their needs and to improve the ability and experience of teachers.

In the technical and further education (TAFE) graduate destination survey for 1997 (GDS), also compiled by NCVER, TAFE graduates were also relatively dissatisfied with their course of study. Graduates working in the industry gave a lower rating to their course in terms of relevance to their employment than graduates working in any other industry, with only 31.7% of graduates working in the industry rating their VET course as 'highly relevant'.

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[1] Australian Bureau of Statistics (ABS), *Labour force: Australia*, cat.6203.0, November 1997

Table 11.1: Employment ('000s) in finance and insurance by sub-division, by gender and type of employment, Australia, November 1997

Industry sub-division	Males	Females	Full-time	Part-time	Total
Finance	*73.8*	*106.4*	*144.3*	*35.9*	*180.1*
Central bank	0.5*	0.2*	0.6*	0.0*	0.6*
Deposit-taking financiers	63.1	99.2	129.2	33.1	162.3
Other financiers	3.1*	2.7*	5.0	0.8*	5.8
Financial asset investors	7.1	4.3	9.4	1.9*	11.4
Insurance	*25.3*	*29.4*	*49.2*	*5.4*	*54.6*
Life insurance and superannuation funds	12.9	13.9	25.0	1.8*	26.8
Other insurance	12.4	15.5	24.2	3.7	27.9
Services to finance and insurance	*39.7*	*33.1*	*58.6*	*14.2*	*72.7*
Services to finance and investment	27.5	22.3	41.3	8.5	49.8
Services to insurance	12.2	10.7	17.3	5.7	22.9
Total	**138.7**	**168.8**	**252.0**	**55.5**	**307.5**

Note: *Subject to sampling variability too high for most practical uses

Source: ABS, *Labour force, Australia*, cat.6203.0, November 1997

The surveyed graduates were particularly critical of the quality of equipment available for practising their skills during their course. They, along with all TAFE graduates, were also very critical of the provision of information on jobs and careers. Other aspects of their course criticised by TAFE graduates were how employers regarded their qualification and the usefulness of their qualification in gaining a job.

Fewer than 3% of the TAFE graduates surveyed in 1997 were employed in the finance and insurance industry, so it is not a major employment destination for TAFE graduates. Full-time earnings for TAFE graduates working in the industry were in the middle range for all graduates. However, there was a large gap between full-time male and female earnings for these graduates. The reason for this is not clear from the available information.

Employers in the industry were not generous in their financial support for TAFE students employed during the final semester. However, the industry was among those industries spending higher amounts on training for its employees. Notably, the industry increased its training expenditure between 1993, when the Training Guarantee was in operation and 1996, when the Training Guarantee was no longer in operation.

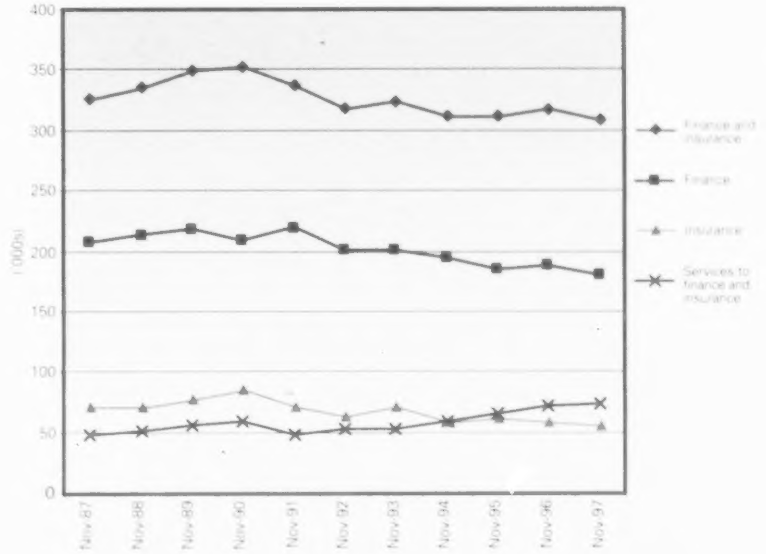
An industry snapshot

The finance and insurance industry covers employment in banking, credit unions, building societies, superannuation funds, other financial institutions, health, general and life insurance and in a range of services to these industries. Employment in the finance and insurance industry, at 307 500, represents about 3.6% of total Australian employment. It is the fifth smallest of the 17 industry divisions.

The industry's gross product in 1995–1996, of more than $17.5 billion, represented about 4.15% of total Australian gross product. In 1994–1995 there were 21 800 businesses operating in Australia that were categorised in this industry. In 1994–1995 the industry recorded by far the largest operating profit before tax of all industry sectors, at just over $20 billion, or almost a quarter of the total for all businesses.

Although employment in the industry grew quite strongly during the second half of the 1980s, since 1987 employment has declined by about 5.5% or by nearly 20 000 jobs. Chart 11.1 shows the movements in employment in the industry overall and in its main components. Employment in this industry appears to have been affected by outsourcing. Over the last decade employment in the finance sub-division and the insurance sub-division has declined by over 15%, or by more than 40 000 jobs, while employment in the services to finance and insurance sub-division has grown by more than 52%, or about 25 000 jobs. The occupational implications of this change are explored later in this chapter.

Chart 11.1: Employment trends in finance and insurance, Australia, November 1987–November 1997 (ABS labour force survey)



Source: ABS, *Labour force, Australia*, cat.6203.0, 1987–1997

With incremental deregulation of the banking and finance industries over recent years, there has been a blurring of the distinctions between the different types of financial institutions which once existed, with all related regulatory services now coming under the one body. For example, many banks now offer financial investment and insurance services. Traditional banking services provided over the counter have been reduced, especially in rural areas, while many of the banks continue to reduce their staffing levels.

The Wallis Inquiry, released in April 1997, has recommended further changes to the regulation of the banking and finance sector in Australia. It anticipates a wider range of players, including large retailers and communications businesses, entering the industry.

Despite the reduction in employment in the finance industry over recent years, the levels of business activity in the sector have risen strongly. Since 1994–1995 lending commitments by financial institutions in Australia have risen by more than 36%, with most of this increase having occurred in the commercial finance area. Over the last three years the assets of life and superannuation funds have risen by more than 30%, the assets of other financial institutions by more than 26%, while the assets of banks have risen by nearly 32%.[2]

Employment characteristics of the industry

As shown below in table 11.2, most jobs in the industry are located in New South Wales and Victoria, where the head offices of the major financial institutions are usually situated. In every State and Territory, females outnumber males in this industry.

Table 11.2: Employment ('000s) in finance and insurance by State/Territory, 1995

	NSW	Vic	Qld	SA	WA	Tas	NT	ACT
Males	59.0	36.3	15.5	7.7	12.8	2.4*	1.0*	1.8*
Females	72.8	51.0	24.3	11.1	15.0	3.0*	1.1*	2.5*
Total	**131.8**	**87.3**	**39.8**	**18.8**	**27.8**	**5.4**	**2.1***	**4.3**

Note: *Subject to sampling variability too high for most practical uses

Source: ABS, *Labour force, Australia*, cat.6204.0, 1995

Employment in the industry is disproportionately concentrated in New South Wales and, to a lesser extent, Victoria, as is shown in table 11.3. Despite accounting for 33% of all jobs in Australia, New South Wales has 41.5% of all jobs in the finance and insurance industry. Victoria's share of jobs in the industry is three percentage points above its share of all jobs, while all other States and Territories have less than their pro rata share, with Queensland and South Australia, in particular, appearing to be poorly represented in this industry.

The age distribution of workers in the industry, shown in table 11.4, differs from the general age distribution of the whole workforce in that there are fewer younger and older workers in finance and insurance than in the whole workforce. Finance and insurance has a concentration of workers in the 25–34 age group and a very low proportion of workers aged 15–19.

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[2] ABS, *Australian national accounts: Financial accounts*, cat.5232.0

Table 11.3: Share of employment in finance and insurance by State, by share of total jobs, 1995

State	Finance and insurance %	% employed in all industries
NSW	41.5	33.1
Vic	27.5	24.7
Qld	12.5	18.3
SA	5.9	8.0
WA	8.8	10.1
Tas	1.7	2.2
NT	0.7	1.0
ACT	1.4	2.0
Total	**100.0**	**100.0**

Source: ABS, *Labour force, Australia*, cat.6204.0, 1995

Table 11.4: Age distribution of finance and insurance workers and all employed, Australia, November 1997

	Age group						Total
	15–19	20–24	25–34	35–44	45–54	55+	
Finance and insurance ('000s)	4.1	42.3	106.6	82.8	56.7	14.9	307.5
Finance and insurance %	1.3	13.8	34.7	26.9	18.4	4.8	100.0
All–industry %	6.9	11.5	25.2	25.6	21.1	9.8	100.0

Source: ABS, *Labour force, Australia*, cat.6203.0, November 1997

The finance and insurance industry is one of five industry divisions in Australia in which women make up a majority of employees. In November 1997 women accounted for nearly 55% of all employees in this industry. However, they make up less than 48% of the industry's full-time workers. Females comprise 88% of the industry's part-time workers. A decade ago women comprised about 51% of all workers in the industry.

The finance and insurance industry employs a marginally low proportion of persons born overseas, just under 23%, compared with the total workforce's 24%.

- Business levels in the industry have grown strongly in recent years.
- Employment in this industry has declined gradually from its peak in 1989–1990, with the greatest job losses occurring in both the finance and insurance sub-divisions.
- The strong growth in the services to finance and insurance sub-division has not offset the job losses in the other two sub-divisions.
- The industry is strongly concentrated in New South Wales and, to a lesser extent, Victoria.
- Rationalisation and futher deregulation are likely to mean overall employment in the industry will continue to fall.

Occupational composition

Table 11.5 shows the occupational composition of the finance and insurance industry in comparison with the total workforce.

The industry has a relatively low proportion, 16.2%, of its workforce in the manager and professional categories compared with the total workforce share for these groups of 25%. This is despite the relatively strong growth in these occupations within finance and insurance over the last decade, together with declines in most other occupational groups.

On the other hand, almost two-thirds of the workforce in finance and insurance are found in two occupational groups, associate professionals and intermediate clerical, sales and service occupations. Note that the occupational classification used in table 11.5 is the Australian Standard Classification of Occupations (ASCO) second edition. Analysis of occupational changes over the last decade in later sections of this chapter use the earlier ASCO first edition in order to allow comparison over a substantial time period.

Detailed tables showing the composition of the industry by major and minor occupational group (1-digit and 3-digit ASCO) by educational attainment from the 1996 Census are provided in the notes at the end of this chapter, as tables A11.3 and A11.4.

Both trade-level jobs and manual/low-skill-level jobs are almost absent from this industry, with only 3.4% of the workforce in the bottom three categories, compared with the total workforce where nearly 30% of workers are found in these groups.

Table 11.5: Occupational profile, finance and insurance industry and total workforce, Australia, November 1997

Occupation group	Finance and insurance %	Total workforce %
Managers and administrators	5.0	7.6
Professionals	11.2	17.4
Associate professionals	18.4	10.5
Tradespersons and related	0.7	13.2
Advanced clerical and service	14.5	4.5
Intermediate clerical/sales/service	46.7	17.1
Intermediate production/transport	0.7	9.2
Elementary clerical/sales/service	2.2	10.5
Labourers and related	0.5	10.1
Total	**100.0**	**100.0**

Source: ABS, *Labour force, Australia*, cat.6203.0, November 1997

Given the above occupational profile it is of interest, as shown in table 11.6 below, that the industry has an above-average proportion of workers with a university degree or higher but a slightly below-average share of workers with diploma or associate-diploma-level qualifications. Only 23% of the workforce holds qualifications associated with the VET sector, compared with 31% across all industries. A relatively high proportion of the industry's workforce, 56.3%, is without any form of post-school qualification.

Table 11.6: Qualifications of finance and insurance industry workers, percentage distribution, Australia, May 1997

	Bachelor's degree or higher	Diploma/ associate diploma	Skilled vocational	Basic vocational	Without post-school qualification
Finance and insurance	20.5	8.7	3.4	10.9	56.3
Total industry	**17.2**	**9.0**	**12.6**	**9.4**	**49.4**

Source: ABS, *Transition from education to work*, cat.6227.0, May 1997

The implications appear to be that while higher-level VET qualifications appear to be less significant to the industry than in some other industries, there could well be a significant role for VET in addressing the training or skill recognition needs of the majority of the industry's workforce without formal qualifications.

Occupational trends and skills shortages

As noted earlier, this analysis of changes in the occupational composition of the industry uses the first edition ASCO to allow for a long perspective. Hence the comparison is made for the decade between 1987 and 1996. After 1996, occupational data are based on the newer second edition ASCO classification.

At the broader occupational group level the main trend over the last decade has been for growth to occur in the management, professional and para-professional area, and for job losses to occur in all other broad occupational groups, other than in the sales and personal services group. This is not to rule out the growth of some particular areas within the broad groups where losses have occurred. These are examined later in this chapter.

Table 11.7 shows the changes that have occurred over the decade to 1996 at the major occupational group level, while table A11.2 in the notes at the end of this chapter shows changes at the individual occupational level (4-digit ASCO).

Between 1987 and 1996, employment in the finance and insurance industry declined slightly by 2200. Table A11.2 in the notes at the end of this chapter provides details of all major occupational changes over the decade. Between 1996 and 1997, employment declined by a further 10 000. The occupations that accounted for most job losses between 1987 and 1996 were accounting clerks (down 10 300), other clerks (down 9700), typists (down 5000) and insurance brokers and agents (down 5000).

Over the decade, the occupations that showed the greatest growth were securities and finance dealers (up 9600), receptionists and information clerks (up 7600) and computing professionals (up 7300).

Table 11.7: Employment changes in finance and insurance, major occupational groups, Australia, 1987–1996

Occupational group	Number in 1987 '000s	Number in 1996 '000s	% change over decade
Managers and administrators	34.4	39.7	15.4
Professionals	23.8	33.8	42.0
Para-professionals	3.8	4.6	21.1
Tradespersons	2.3*	1.3*	–43.5*
Clerks	167.9	142.5	–15.1
Sales and personal service	80.1	91.5	14.2
Plant operators, drivers	1.3*	0.8*	–38.5*
Labourers	6.0	3.1*	–48.3
Total	**319.6**	**317.4**	**–0.7**

Note: *Subject to sampling variability too high for most practical uses

Source: ABS, *Labour force, Australia*, cat.6203.0, 1987–1996

Most employers in the industry believe that there are currently sufficient VET graduates to meet their needs. In the 1997 ESS, 76% of employers in the industry said the current supply of VET graduates was adequate, while only 13% said that it was inadequate. (In addition, 11% could not say.) Of those employers in the industry who did believe there were shortages of skilled workers, most identified shortages in the sales and personal service group, followed by professionals and clerical workers. No more specific details were available.

Despite the general view that VET graduates are adequate to meet current needs it is likely that some employers in this industry, along with those in other sectors, would experience some difficulty in recruiting both computing professionals—an occupation growing strongly in this industry—and accountants and auditors. Whether VET qualifications in these disciplines are generally acceptable to employers is not clear from the available data. Demand for these occupations has grown strongly over the last three years, according to the Department of Employment, Education, Training and Youth Affairs (DEETYA) Skilled Vacancy Index.

In its national industry training plan presented to the Australian National Training Authority (ANTA) in 1997, the national industry training advisory body (ITAB), the Finance and Administration ITAB Ltd, made the following comment on skill shortages:

> *The areas of current or predicted skills shortage identified at the national level, include: accountants; business professionals; general managers; financial managers; computing personnel; personnel and industrial relations managers; and clerks-all. At various State and Territory/ levels, several more skills areas are identified as possible shortages.*

Hours of work and earnings

As noted above, the finance and insurance industry is one of five industries in which women predominate, making up about 55% of all employees in the industry. Despite this, only 18% of the jobs in the industry are part time. This distinguishes this industry from the other four where women are the majority, in that in the other four industries, part-time jobs account for at least 33% of jobs and, in two of them, more than 40%.

Overall average weekly hours worked in the industry in November 1997 were 35.3, just under the all-industry average of 35.6. Closer examination of the hours worked shows that about 28% of all males employed in the industry worked on average more than 48 hours per week, compared with 6.3% of all females. While this might reflect a higher concentration of males in demanding senior management positions, it also emerges as an important social issue in this and other industries.

Since 1984 the average hours worked by males in the industry have risen by 4.5 hours, from 36.2 hours to 40.7 hours, but have fallen slightly for women, from 31.3 hours to 30.8 hours.

If 'flexibility' in working hours, i.e. the capacity and willingness to work increasingly longer hours, is a criterion for progression to senior positions then it would appear that some women are being increasingly disadvantaged by this change in employment conditions. Whether this trend of fewer male workers working longer hours to some extent explains the reductions in employment in lower-level occupations in this industry is beyond the scope of this chapter. Clearly, there have been important technology changes in the industry that could well justify such a shift in occupational composition.

Nevertheless, if this shift is magnified across all industries, the impact on the overall labour market and, in particular, unemployment is immense. If just the males in the finance and insurance industry working 49 hours a week or more reduced their working hours by ten by job redesign this would, in theory, produce at least 11 000 additional full-time jobs, paid at the same hourly rate. Of course, it would be likely that the hourly rate of such new jobs would be paid at perhaps half the rate of the hours they were replacing, meaning that over 20 000 new jobs could be created in this way.

The following table shows the distribution of employment between full-time and part-time workers by sex.

Table 11.8: Finance and insurance industry employment, by sex and hours worked, Australia, November 1997

	Full-time ('000s)		Part-time ('000s)		Total ('000s)	
	No.	%	No.	%	No.	%
Males	132.1	52.4	6.6	11.9	138.7	45.1
Females	119.9	47.8	48.9	88.1	168.8	54.9
Total	**252.0**	**100.0**	**55.5**	**100.0**	**307.5**	**100.0**

Source: ABS, *Labour force, Australia,* cat.6203.0, 1997

Managerial earnings in the finance and insurance industry are among the highest of all industries. However, non-managerial earnings are well below the all-industry average. In May 1996 average weekly non-managerial earnings were $647.90, compared with the all-industry average of $683. By contrast, managerial earnings in finance and insurance were $1247.30, markedly above the all-industry weekly managerial earnings figure of $917.50.

While women in managerial positions were well paid in relation to managerial women in other industries, their weekly earnings of $1083.80 were less than 85% of the equivalent rate for males of $1278.70. Non-managerial weekly earnings for full-time males were $746.40, while the equivalent figure for full-time females was $583.90, or 78% of the male rate. Interestingly, the earnings gap for male and female TAFE graduates was greater than the overall male/female non-managerial earnings gap. The 1997 TAFE GDS showed female TAFE graduates working in this industry earned only about 75% of the rate of male TAFE graduates.

- Managerial, professional and sub-professional occupations make up a relatively small proportion of the jobs in this industry but have been the strongest growth areas over the last decade.
- Individual occupations showing strongest growth over the decade were securities and finance dealers, receptionists and information clerks, and computing professionals.
- Most job losses over the last decade have occurred in the keyboard, accounts clerks and other clerical occupations.
- The industry has a high proportion of workers lacking formal post-school qualifications.

Training in finance and insurance

The ANTA-defined training area 'finance, banking and insurance' received an estimated 1.2% of total government-funded training effort in 1996, compared to the industry's share of 3.6% of total employment. This meant that there was an allocation of about 12 hours of government-funded training per employee in the industry compared with the all-industry training area allocation of 27 hours. About the same allocation was made in 1997 and a very marginal increase was expected in 1998.

The industry would, of course, also be an important destination for graduates completing courses of a more general nature not classified as being specifically for finance and insurance. These would include business and clerical, which received 16.4% of total VET funds, and computing, which received 5.3% of government funds.

Unfortunately, neither the field of study codes nor the discipline codes used in the enrolment of students under the Australian Vocational Education and Training Management Information Statistical Standard (AVETMISS) allows for the specific identification of those students likely to be studying courses associated with this industry. However, the field of study 'business administration, economics' and the discipline group 'administration, business, economics, law' would be the main areas of relevant enrolments in VET courses.

In 1996 the business administration, economics field of study accounted for over 21% of all student enrolments in VET and the related discipline group—administration, business, economics, law—accounted for nearly 20% of all module enrolments.

Looking at the field of study enrolments, there were nearly 380 000 student enrolments in the business administration area of which over 60% were females. In the related discipline group, females represented about 63% of module enrolments.

Employer satisfaction with VET

In the 1997 ESS, there were 155 employers surveyed who were defined as being in the finance and insurance industry.

Mean satisfaction scores with VET across all industries ranged between 5.7 and 7 out of a possible 10. The finance and insurance industry recorded a mean satisfaction level of 6.7 (mean for all industries was 6.7). However, only three industries expressed ratings lower than this. Satisfaction with TAFE, as a sub-set of the VET system, was slightly lower at 6.6.

Satisfaction scores between the States ranged from a low of 6.2 in New South Wales to a high of 7.5 in Tasmania. This was one of the lowest satisfaction scores for New South Wales among all 17 industry divisions, with only the accommodation, cafés and restaurants recording a lower score in that State.

In the ESS, employers were also asked to identify the areas in which the VET sector needed to improve its service. Employers in the finance and insurance industry identified two areas in particular as being the highest priority for improvement. These were 'relevance of course content' and 'teacher ability and experience'. Employers in finance and insurance were more likely to nominate these areas than employers overall, particularly in the case of teacher ability and experience.

From these results, it would appear that priorities for improved servicing of this industry for the VET sector are to review current curriculum and to ensure teachers are more exposed to current industry needs and expectations.

VET graduates in finance and insurance

The 1997 TAFE GDS received responses from 1262 graduates employed in the finance and insurance industry at the time of the survey. This represented 2.9% of all employed graduates, down noticeably from the 3.5% employed in the industry at the 1995 survey.

Graduates working in finance and insurance gave the lowest rating in terms of the relevance of their TAFE course to their employment of all surveyed graduates.

Only 31.7% of the surveyed graduates rated their course as being 'highly relevant' to their employment in finance and insurance. Offsetting this poor result, a relatively high proportion, 37.6%, gave their course a rating of 'some relevance'.

Graduates were asked to rate, on a 10-point scale, a number of aspects of their course. The following analysis compares the proportion giving a score of 7 or better on the 10-point scale working in finance and insurance with all graduates.

Table 11.9: Rating of course by graduates employed in finance and insurance and all graduates

Issue	Finance and insurance %	All employed graduates %
Instructors' knowledge	81.5	85.2
Course content reflects industry practice	69.5	72.2
Presentation of material	68.1	73.2
Quality of equipment	53.2	62.2
Sufficient equipment	53.8	60.0
Info on choosing course	52.3	58.6
Info on careers/jobs	27.1	41.1
Usefulness for job prospects	64.8	71.8
Qualification well regarded by employers	57.4	64.9
Balance instruction and practice	63.6	69.8
Assessment method understood	75.6	78.5
Time/venue convenience	76.9	75.3
Overall course quality	81.6	84.1

Source: NCVER, 1997 TAFE graduate destination survey, unpublished data

It is apparent that graduates working in finance and insurance were much less happy with their course than graduates in general. In particular, there appear to be six areas from table 11.9 that are of greater concern, where the score in finance and insurance is more than six percentage points below the all-industry score. These areas are:

- availability of sufficient equipment to practise skills
- quality of the equipment available to practise skills
- the availability of information on careers and jobs
- the usefulness of their qualification for their job prospects
- the regard held by employers for their TAFE qualification
- the balance in their course between instruction and practice

These concerns appear to reinforce the outcomes of the ESS noted earlier which identify, among other things, a need to improve curriculum content and, in fact, to review a broader range of issues around the courses undertaken by these graduates.

As with graduates working in all other industries, those in finance and insurance found the worst aspect of their course was the provision of information on careers and job prospects. In this industry, graduates gave one of the lowest ratings to this aspect of all graduates surveyed. There appears to be no clearer finding from this survey than there is an urgent requirement to review the provision of career information to intending TAFE students and, probably, based on the depth of dissatisfaction among TAFE graduates, a need for such a review to encompass all students.

Employment outcomes

Finance and insurance was not a major employment destination for TAFE graduates, with 2.9% of the graduates working in that industry when surveyed. Of the 1262 TAFE graduates surveyed who were working in finance and insurance, over 60% were located in New South Wales.

About 40% of these graduates had obtained either an associate diploma (249 graduates) or a certificate (other) (259 graduates). In this industry, graduates with an associate diploma represent a higher proportion of all graduates recruited than in all other industries, although many other industries recruited greater numbers of associate diploma holders.

About 78% of those graduates working in the industry were employed during the final semester of their course. Employers in the finance and insurance industry were less generous than most employers in their provision of financial support to these students. Only 40% of these students received some form of support, usually by way of paid fees or, less commonly, paid time off work. Across all industries, around 51% of students working during their final semester received support from their employer.

For 31% of those working in the industry, the job they held when surveyed represented their first full-time job, a relatively high figure. Again, in line with the broader characteristics of the industry, only 18% were employed part time compared with nearly 28% of all employed graduates in the survey.

Graduates were asked to identify the main reasons for undertaking their course of study and to what extent their goals had been achieved. The following table summarises the responses to these questions.

The main finding from table 11.10 is that while the most common reason for all graduates to undertake their TAFE course was to get a job (nearly 25%), for graduates working in finance and insurance this was the motivation for just 20%, with the greatest number (26%) motivated by a desire for promotion.

Table 11.10: TAFE graduates working in finance and insurance—reasons for doing course and achievement of aim

Reason and number	Fully achieved %	Partly achieved %
Get a job (259)	66.4	18.9
Try for different career (183)	41.0	21.9
Get better job/promotion (336)	45.2	26.8
Requirement of job (44)	86.4	6.8
Get extra skills (206)	68.9	23.3
Personal interest (181)	83.4	12.7

Source: NCVER, 1997 TAFE graduate destination survey, unpublished data

Graduates working in the finance and insurance industry were in the middle range in terms of weekly earnings. Full-time male graduates earned $754, while full-time females earned $566. This industry is one of the seven industries in which the attainment of a TAFE qualification does not appear to assist females in reducing the income gap for full-time work with males. Female TAFE graduates working full time in finance and insurance earned about 75% of their full-time male TAFE graduate counterparts. All females working in the industry in non-managerial positions earned both a higher income than female TAFE graduates and earned 78% of their male counterparts' earnings.

The discrepancy between male and female graduates' earnings is also the fourth largest of all industries surveyed, in terms of female earnings as a percentage of males'.

Employer support for training

In 1996, the Australian Bureau of Statistics (ABS) conducted the employer training expenditure survey (cat.6353.0), a survey of structured training provided by employers in the September quarter of that year. A similar survey was undertaken three years previously. Employers in finance and insurance were found in the 1996 survey to be spending $282 per employee on training, well above the all-industry average of $185. In the 1993 survey their expenditure was just under $250 per employee, an increase of about 12.8%. This went against the broad trend of reducing training expenditure that occurred over this period, with all industries reducing their spending by about 3%.

The 1996 level of training expenditure represented 2.98% of gross wages and salaries in the finance and insurance industry, compared with the across-the-board level of 2.54%. The industry provided 6.17 hours of training per employee, well above the all-industry figure of 4.91 hours. While the hours of training per employee represented a rise from 5.96 hours in 1993, the proportion of gross wages and salaries spent on training by the industry actually declined from 3.2% in 1993 to the figure of 2.98% in 1996. In 1996 the largest areas of training were in sales/office and personal service, computing and management and professional training. In terms of hours of training per employee, the industry was by far the biggest spender on the sales/office/personal service area of training.

The 1997 ABS employer training practices survey (cat.6356.0) looked at employer provision of both structured and unstructured training over a 12-month period. It indicated that employers generally, including those in finance and insurance, had increased their training expenditure over the previous year, with 31% of finance and insurance employers compared with 18% of all employers having increased their provision of structured training.

- Employers in finance and insurance are reasonably satisfied with VET provision, particularly in New South Wales.
- Only 31% of TAFE graduates working in finance and insurance rated their course as highly relevant to their employment—the lowest score among all employed TAFE graduates surveyed.
- Employers in the industry want to see improvement in the relevance of course content and in teacher ability and experience.
- TAFE graduates were critical of many aspects of their course, especially the availability of information on jobs and careers and the quality of equipment available for practising their skills.
- There is a pronounced gap in earnings between male and female TAFE graduates in this industry.

Some training issues in finance and insurance

- There are concerns about the relevance and quality of training provided to TAFE students who find employment in the finance and insurance industry. Both the 1997 ESS and the 1997 TAFE GDS revealed some dissatisfaction with training provided to graduates working in the industry.
- Criticism of present training provision included:
  - a need to improve the relevance of course content
  - the ability and experience of teachers
  - the quality and availability of equipment available to students to practise their skills
  - the usefulness of their qualifications in finding employment
  - in particular, the provision of information on jobs and careers
- A high proportion of workers in the industry lack formal post-school qualifications. What role, if any, is there for the VET sector to play in either providing skills upgrading to any workers in the industry needing this or in providing recognition of current competencies?
- Why is there such a wide disparity between the earnings of male and female TAFE graduates working in this industry? Finance and insurance is one of seven industries in which the gaining of a TAFE qualification appears to widen the earnings gap for females with their male equivalents, in relation to all male and female workers in that industry.

- With the expected continuation of rationalisation and outsourcing in the industry what shifts, if any, should be made in training provision to meet the skill needs of an industry with growth in the professional and sub-professional, managerial and sales/personal service occupations? Will these occupations continue to grow if the industry continues to contract in overall terms?

The national ITAB covering this industry, the Finance and Administration ITAB Ltd, raised the following issues in its training plan in 1997 submitted to ANTA:

- internationalisation, with the need to focus on greater co-operation between VET agencies and industry internationally
- professionalism in striving to develop a professional image and reputation
- consistency, relevance and flexibility of training
- credentials and outcomes are required for a consistent training framework
- with the contraction of the industry, regional issues have serious implications for employment in rural and remote areas

Notes

The following table is extracted from the ANTA resource allocations for 1997 document, available at their website. It shows the planned allocations of government-funded training between the ANTA-defined 'training areas' in terms of 'annual hours curriculum' (AHC).

Table A11.1: Key national shifts in activity between 1996 revised estimates and 1997 projected activity (AHC '000s)

Industry training area	1996 revised	1997 projected	Total increase	Total increase as % of 1996 revised	% of overall increase
Category A					
Arts, Entert, Sports and Rec	11 408	11 928	520	4.6	5.5
Automotive	8 221	8 576	355	4.3	3.7
Building and Construction	18 785	19 009	224	1.2	2.4
Comm Services, Health and Ed	20 910	22 382	1 471	7.0	15.5
Finance, Banking and Insurance	3 420	3 468	48	1.4	0.5
Food Processing	2 454	2 851	396	16.1	4.2
TCF and Furnishings	5 714	5 813	100	1.7	1.0
Communications	1 883	1 963	80	4.3	0.8
Engineering and Mining	15 654	16 607	952	6.1	10.0
Primary Industry	11 874	12 217	343	2.9	3.6
Process Manufacturing	397	479	82	20.6	0.9
Sales and Personal Service	6 527	6 752	225	3.4	2.4
Tourism and Hospitality	16 707	18 151	1 444	8.6	15.2
Transport and Storage	1 686	1 851	164	9.8	1.7
Utilities	11 898	12 145	247	2.1	2.6
Category B					
Business and Clerical	42 412	43 117	705	1.7	7.4
Computing	11 969	12 641	672	5.6	7.1
Science, Technical and Other	6 727	6 870	143	2.1	1.5
Category C					
Gen Education and Training	40 046	41 212	1 166	2.9	12.3
Unallocated	622	779	157	25.2	1.6
Total	**239 316**	**248 810**	**9 494**	**4.0**	**100.0**

Note: TCF – textiles, clothing and footwear

Source: Publications, *ANTA Resource Allocations 1997*, <www.anta.gov.au>

Table A11.2: Employed persons by occupation in the finance and insurance industry, 1987 and 1996

Occupation (ASCO 4-digit)	1987	1996	Change 1987 to 1996	
				Average annual
	('000s)	('000s)	('000s)	%
1201 General managers	4.1	2.2	–1.9	–6.9
1301 Finance managers	5.9	6.9	1.0	1.8
1507 Financial institution branch managers	15.6	19.4	3.8	2.5
1599 Other managing supervisors (Sales and service)	2.4	3.9	1.5	5.7
2701 Accountants	8.7	9.3	0.6	0.8
2707 Computing professionals	7.7	15.0	7.3	7.9
3905 Inspectors and regulatory officers	2.9	3.5	0.6	2.2
5101 Office secretaries and stenographers	16.1	13.6	–2.5	–1.9
5103 Typists and typist–clerks	6.4	1.4	–5.0	–15.9
5201 Data processing machine operators	13.1	13.2	0.1	0.1
5301 Accounting clerks	68.2	57.9	–10.3	–1.9
5303 Insurance and broking clerks	22.9	19.7	–3.2	–1.7
5499 Other filing sorting and copying clerks	4.7	1.7	–3.0	–11.0
5601 Receptionists and information clerks	14.6	22.2	7.6	4.9
5999 Other clerks	10.6	0.9	–9.7	–24.6
6101 Securities and finance dealers	10.6	20.2	9.6	7.6
6103 Insurance brokers and agents	19.6	14.6	–5.0	–3.3
6401 Tellers	43.8	49.0	5.2	1.3
	41.7	42.8	1.1	0.3
Total all occupations	**319.6**	**317.4**	**–2.2**	**–0.1**

Note: As estimates of less than 3500 are subject to high statistical error, they are listed against specific occupations only where there was a higher estimate in either 1987 or 1996. Where estimates of less than 3500 were recorded for both 1987 and 1996, they are included in the 'other occupations' category.

Source: ABS labour force survey, unpublished data

Table A11.3: Educational attainment of employed persons by industry, occupation (1-digit ASCO) and type of post-school qualification at 1996 Census

Finance and insurance	**Bachelor degree or higher**	**Undergraduate diploma**	**Associate diploma**	**Skilled vocational qualification**	**Basic vocational qualification**	**With qualifications**	**Inadequately described or not stated**	**Not applicable (No quals.)**	**Total**
ASCO code and occupation									
1 Managers and Administrators	10 286	1 479	1 440	905	1 191	15 301	1592	9 209	26 102
2 Professionals	17 817	1 550	2 076	512	1 062	23 017	1322	7 989	32 328
3 Associate Professionals	13 000	3 111	3 351	1 915	3 099	24 476	3810	29 519	57 805
4 Tradespersons and Related Workers	108	48	81	1 049	55	1 341	129	678	2 148
5 Advanced Clerical and Service Workers	4 803	1 751	2 233	1 840	3 589	14 216	4064	25 835	44 115
6 Intermediate Clerical, Sales and Service Workers	9 689	2 630	4 740	2 145	5 756	24 960	7911	88 998	121 869
7 Intermediate Production and Transport Workers	60	17	30	169	36	312	87	967	1 366
8 Elementary Clerical, Sales and Service Workers	387	145	168	251	241	1 192	404	3 520	5 116
9 Labourers and Related Workers	32	23	18	127	51	251	112	1 227	1 590
0 Inadequately described	560	171	115	218	123	1 187	279	1 682	3 148
Not stated	99	24	25	33	22	203	151	512	866
Not applicable	–	–	–	–	–	–		–	–
Total	**56 841**	**10 949**	**14 277**	**9 164**	**15 225**	**106 456**	**19 861**	**170 136**	**296 453**

Source: ABS, 1996 Census of population and housing

Table A11.4: Educational attainment of employed persons by industry, occupation (3-digit ASCO) and type of post-school qualification at 1996 Census

Finance and insurance ASCO code and occupation	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
100 Managers and Administrators nfd	903	204	125	195	126	1 553	301	1 334	3 188
110 Generalist Managers nfd	3	0	0	0	0	3	0	0	3
111 General Managers and Administrators	2 112	279	269	130	192	2 982	310	1 459	4 751
119 Miscellaneous Generalist Managers	33	6	7	36	7	89	13	80	182
120 Specialist Managers nfd	196	25	22	18	19	280	32	134	446
121 Resource Managers	3 942	518	606	239	457	5762	539	3 778	10 079
122 Engineering, Distribution and Process Managers	989	124	121	97	85	1 416	97	635	2 148
123 Sales and Marketing Managers	1 391	212	183	118	201	2 105	184	1 191	3 480
129 Miscellaneous Specialist Managers	705	99	101	48	99	1 052	105	515	1 672
131 Farmers and Farm Managers	10	12	6	24	5	57	11	83	151
200 Professionals nfd	318	16	26	12	26	398	31	197	626
210 Science, Building and Engineering Professionals nfd	0	0	0	0	0	0	0	0	0
211 Natural and Physical Science Professionals	177	10	4	0	3	194	6	17	217
212 Building and Engineering Professionals	348	32	34	59	22	495	19	64	578
220 Business and Information Professionals nfd	100	8	4	3	9	124	4	52	180
221 Accountants, Auditors and Corporate Treasurers	5 491	327	881	56	154	6 909	393	1 685	8 987
222 Sales, Marketing and Advertising Professionals	757	60	97	34	118	1 066	89	548	1 703
223 Computing Professionals	5 045	452	482	159	332	6 470	339	2 621	9 430
229 Miscellaneous Business and Information Profs	3 043	243	454	116	308	4 164	276	2 241	6 681
230 Health Professionals nfd	0	0	0	0	0	0	0	0	0
231 Medical Practitioners	115	0	3	0	0	118	4	15	137
232 Nursing Professionals	244	249	4	3	17	517	55	21	593
238 Miscellaneous Health Professionals	153	11	0	3	3	170	12	5	187
240 Education Professionals nfd	3	0	0	0	0	3	0	0	3
241 School Teachers	50	8	5	0	0	63	3	6	72

	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
242 University and Vocational Education Teachers	**175**	**3**	**3**	**0**	**0**	**181**	**0**	**17**	**198**
249 Miscellaneous Education Professionals	34	5	0	4	5	48	9	32	89
250 Social, Arts and Miscellaneous Professionals nfd	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
251 Social Welfare Professionals	209	27	13	6	11	266	14	59	339
252 Miscellaneous Social Professionals	**1 199**	**12**	**12**	**4**	**13**	**1 240**	**21**	**135**	**1 396**
253 Artists and Related Professionals	242	40	28	32	18	360	29	151	540
254 Miscellaneous Professionals	**114**	**45**	**25**	**19**	**21**	**224**	**14**	**123**	**361**
300 Associate Professionals nfd	42	9	23	14	23	111	20	194	325
310 Science/Engineering and Related Assoc Profs nfd	**12**	**3**	**9**	**7**	**4**	**35**	**0**	**9**	**44**
311 Medical and Science Technical Officers	61	3	9	11	8	92	6	39	137
312 Building/Engineering Associate Professionals	**61**	**17**	**50**	**95**	**19**	**242**	**22**	**107**	**371**
320 Business and Administrative Assoc Profs nfd	47	9	11	3	12	82	15	89	186
321 Finance Associate Professionals	**10 444**	**2 468**	**2 450**	**1 187**	**2 192**	**18 741**	**2932**	**22 664**	**44 337**
329 Miscellaneous Business/Admin Assoc Profs	1 852	455	620	352	621	3 900	613	4 589	9 102
330 Managing Supervisors (Sales and Service) nfd	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**5**
331 Shop Managers	26	10	11	20	7	74	9	90	173
332 Hospitality and Accommodation Managers	**23**	**17**	**10**	**63**	**12**	**125**	**13**	**83**	**221**
339 Miscellaneous Mngr. Supervisors (Sales and Service)	347	93	131	105	140	816	150	1 468	2 434
340 Health and Welfare Assoc Professionals nfd	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
341 Enrolled Nurses	4	7	0	3	36	50	8	12	70
342 Welfare Associate Professionals	**6**	**5**	**0**	**0**	**3**	**14**	**0**	**6**	**20**
349 Miscellaneous Health and Welfare Associate Profs	0	0	0	12	3	15	0	5	20
390 Other Associate Professionals nfd	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
391 Police Officers	3	0	3	3	0	9	0	8	17
399 Miscellaneous Associate Professionals	**80**	**15**	**25**	**43**	**22**	**185**	**17**	**151**	**353**
400 Tradespersons and Related Workers nfd	8	3	3	14	3	31	3	19	53

	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
410 Mechanical/Fabrication Engineering Trades nfd	0	0	0	0	0	0	0	0	0
411 Mechanical Engineering Tradespersons	10	4	14	164	3	195	10	47	252
412 Fabrication Engineering Tradespersons	0	0	0	45	0	45	7	33	85
421 Automotive Tradespersons	8	7	4	415	13	447	24	69	540
431 Electrical and Electronics Trades	46	15	45	170	13	289	36	200	525
440 Construction Tradespersons nfd	0	0	0	0	0	0	0	0	0
441 Structural Construction Trades	3	0	0	70	3	76	8	41	125
442 Final Finishes Construction Trades	0	3	3	18	3	27	0	22	49
443 Plumbers	3	0	0	20	0	23	0	6	29
451 Food Tradespersons	6	0	0	13	3	22	7	34	63
460 Skilled Agricultural/Horticultural Workers nfd	0	0	0	0	0	0	0	0	0
461 Skilled Agricultural Workers	0	3	0	0	3	6	0	11	17
462 Horticultural Tradespersons	3	5	4	9	4	25	5	39	69
490 Other Tradespersons and Related Workers nfd	0	0	0	0	0	0	0	0	0
491 Printing Tradespersons	6	0	0	58	5	69	13	75	157
492 Wood Tradespersons	0	0	0	11	0	11	0	5	16
493 Hairdressers	0	0	0	8	0	8	0	4	12
494 Textile, Clothing and Related Trades	0	0	0	0	0	0	3	12	15
498 Miscellaneous Tradespersons and Related Wkrs	13	7	6	33	4	63	9	60	132
500 Advanced Clerical and Service Workers nfd	0	0	0	3	0	3	0	8	11
511 Secretaries and Personal Assistants	750	636	597	248	1 834	4 065	1807	7 485	13 357
590 Other Advanced Clerical and Service Wkrs nfd	0	0	0	0	0	0	0	0	0
591 Advanced Numerical Clerks	2 583	357	980	276	577	4 773	701	11 522	16 996
599 Miscellaneous Advanced Clerical and Service Wkrs	1 468	758	656	1 315	1 178	5 375	1556	6 820	13 751
600 Intermediate Clerical, Sales and Service Wkrs nfd	15	3	0	4	5	27	9	58	94
610 Intermediate Clerical Workers nfd	12	4	11	3	9	39	15	78	132

	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
611 General Clerks	676	268	356	196	541	2037	860	7 221	10 118
612 Keyboard Operators	436	156	211	87	431	1321	654	3 856	5 831
613 Receptionists	87	92	130	64	298	671	331	2 019	3 021
614 Intermediate Numerical Clerks	7 220	1 781	3 569	1 476	3 944	17 990	5370	69 744	93 104
615 Material Record and Despatch Clerks	87	24	34	42	43	230	54	554	838
619 Miscellaneous Intermediate Clerical Workers	820	170	282	151	346	1 769	451	4 304	6 524
621 Intermediate Sales and Related Workers	277	48	73	82	69	549	78	750	1 377
630 Intermediate Service Workers nfd	0	0	0	0	0	0	3	4	7
631 Carers and Aides	14	16	12	18	6	66	18	112	196
632 Hospitality Workers	10	3	3	8	0	24	8	103	135
639 Miscellaneous Intermediate Service Workers	32	67	57	14	63	233	61	195	48
700 Intermediate Production and Transport Wkrs nfd	0	0	0	5	0	5	5	23	33
710 Intermediate Plant Operators nfd	0	0	0	3	0	3	0	9	12
711 Mobile Plant Operators	3	0	0	13	3	19	5	84	108
712 Intermediate Stationary Plant Operators	3	3	4	33	4	47	6	66	119
720 Intermediate Machine Operators nfd	22	6	8	20	12	68	22	207	29
721 Intermediate Textile/Clothing/Related Mach Ops	3	0	0	3	0	6	3	24	33
729 Miscellaneous Intermediate Machine Operators	7	0	3	4	0	14	6	50	70
731 Road and Rail Transport Drivers	7	3	7	45	8	70	18	270	358
790 Other Intermediate Prod'n and T'port Wkrs nfd	0	0	0	0	0	0	0	0	0
791 Intermediate Mining and Construction Workers	3	3	0	12	3	21	3	18	42
799 Misc Intermediate Prod'n and Transport Wkrs	16	3	6	33	6	64	19	216	299
800 Elementary Clerical, Sales and Service Wkrs nfd	3	3	0	3	0	9	0	6	15
811 Elementary Clerks	165	44	71	86	116	482	179	1 801	2 462
820 Elementary Sales Workers nfd	0	0	0	0	0	0	0	3	3
821 Sales Assistants	77	40	45	46	51	259	82	625	966
829 Miscellaneous Elementary Sales Workers	86	38	28	37	55	244	84	679	1 007
831 Elementary Service Workers	56	22	23	79	19	199	57	406	662

	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
900 Labourers and Related Workers nfd	3	0	0	4	4	11	0	81	92
911 Cleaners	12	11	9	30	25	87	54	629	770
920 Factory Labourers nfd	0	0	0	0	0	0	0	3	3
921 Process Workers	7	3	3	30	0	43	12	152	207
922 Product Packagers	3	0	0	4	0	7	5	55	67
990 Other Labourers and Related Workers nfd	0	0	0	0	0	0	0	0	0
991 Mining, Construction and Related Labourers	3	3	0	14	5	25	8	56	89
992 Agricultural and Horticultural Labourers	0	0	3	4	3	10	3	43	56
993 Elementary Food Preparation and Related Wkrs	3	0	3	4	9	19	19	129	167
999 Miscellaneous Labourers and Related Workers	3	4	3	36	3	49	11	80	140
099 Inadequately described	560	171	115	218	123	1 187	279	1 682	3 148
Not stated	99	24	25	33	22	203	151	512	866
Not applicable	–	–	–	–	–	–	–	–	–
Total	**56 846**	**10 949**	**14 273**	**9 167**	**15 225**	**106 460**	**19 847**	**170 136**	**296 443**

Note: ntd – not further defined

Source: ABS, 1996 Census of population and housing

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12 Property and business services

The property and business services industry is the third largest industry division in Australia and has been the fastest growing industry over the last ten years. In 1987 the property and business services industry represented about 6.8% of total employment. By 1997 its share of employment had risen to 10.2%.[1] Most of the employment growth over this period has occurred in the business services part of the industry.

The industry is composed of a diverse range of activities. These include real estate sales, legal and accountancy practices, employment placement services, labour and equipment hire businesses, both scientific and market research companies, computing consultancy services and technical services in engineering, surveying, architecture and pest control.

Much of the growth in the industry appears to have resulted from the growing practice of outsourcing some functions that were once performed within businesses by their own employees. The growth of this practice is highlighted by the strong growth in the number of tradespersons employed in this industry over the last decade, up by nearly 138% over the period.

The industry is relatively concentrated in Victoria, Western Australia and New South Wales. It has a relatively high proportion of workers born overseas, a relatively low proportion of part-time employment, and employs about the same proportion of women, 44.2%, as are found in the workforce as a whole, 43.4%. After construction and agriculture, it has the greatest number of persons working on their own account.

The industry has almost double the proportion of professionals as are found across the whole Australian workforce and it has a generally highly qualified workforce, with only 40% lacking formal post-school qualifications.

The 60% of the industry's workforce with a post-school qualification are almost evenly divided between those with a university degree or higher and those with a diploma or some other vocational education and training (VET) qualification. The industry is a major employment destination for VET graduates. In the technical and further education (TAFE) graduate destination survey for 1997 (GDS), compiled by the National Centre for Vocational Education Research (NCVER), it was the fourth largest employment destination for the surveyed TAFE graduates, providing more jobs for them than either construction, or accommodation, cafés and restaurants.

The Australian National Training Authority (ANTA) data on the allocation of government funding for VET do not identify a specific training area that coincides with this industry. It is, therefore, difficult to determine whether the current level of government funding is in line with the importance of this industry as a source of jobs for TAFE graduates.

Employers in the industry appear to be reasonably satisfied with the provision of VET in Australia. However, they indicated in the survey on employer satisfaction with VET for 1997 (ESS), also compiled by NCVER, that they would like to see an improvement in two areas, the work ethic of VET graduates and the relevance of course content.

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[1] Australian Bureau of Statistics (ABS), *Labour force, Australia*, cat.6203.0, November 1997

Graduates surveyed in the 1997 TAFE GDS indicated also a reasonably high level of satisfaction with their course of study. About 51% gave their course a 'highly relevant' rating, compared with 49% of all graduates in the survey. There was a marked disparity in the incomes of the male and female TAFE graduates responding to the GDS, with females working full time earning only about 80% of full-time male TAFE graduates.

Employer support for training is close to the all-industry average. However, over the period between the two surveys of training expenditure, 1993 and 1996, expenditure fell by about 15%, compared with the reduction of about 3% across all industries.

Employment is expected to continue to grow strongly in this sector over the next few years.

Just over half (56%) of all employees in the industry are male and over three-quarters (77%) of employees work full time. The most dominant sectors in the property and business services industry, in terms of employment, are other business services (232 000), followed by legal and accounting services (152 200) and technical services (121 400).

Table 12:1: Employment ('000s) in property and business services by sub-division, by gender and type of employment, Australia, November 1997

Industry sub-division	Males	Females	Full-time	Part-time	Total
Property services	*60.4*	*49.0*	*87.6*	*21.9*	*109.4*
Property operators and developers	14.8	9.9	17.0	7.6	24.7
Real estate agents	28.8	32.7	51.3	10.2	61.6
Non-financial asset investors	0.8*	0.6*	0.8*	0.6*	1.4*
Machinery and equipment hiring and leasing	16.0	5.8	18.4	3.4*	21.8
Business services	*426.9*	*336.7*	*581.3*	*182.3*	*763.6*
Scientific research	17.6	8.8	23.0	3.4*	26.4
Technical services	89.8	31.6	103.5	17.9	121.4
Computer services	52.7	20.8	65.0	8.5	73.5
Legal and accounting services	62.3	89.9	126.9	25.3	152.2
Marketing and business management services	87.8	70.2	121.0	37.0	158.0
Other business services	116.6	115.5	141.9	90.2	232.0
Total	**487.3**	**385.7**	**668.9**	**204.2**	**873.1**

Note: *Subject to sampling variability too high for most practical uses

Source: Australian Bureau of Statistics (ABS), *Labour force, Australia*, cat.6203.0, November 1997

An industry snapshot

The property and business services industry is the third largest industry division in Australia, employing 873 100 persons at November 1997. Over the period from 1987 to 1996, the industry grew far more rapidly than any other industry in Australia, growing by 53.6% compared with overall growth in total employment over the period of 16.9%.

The industry covers a wide range of often unrelated activities coming under the following broad headings:

- property services
- real estate agents
- machinery and equipment hiring
- scientific research
- technical services (mainly engineering, architectural and surveying)
- computer services (including maintenance and consultancy)
- legal and accounting services
- marketing and business management services
- a range of other activities including employment placement services, contract staff services (labour hire) security services other than police, pest control, cleaning and contract packing services

Given this diversity, it is difficult to identify common economic characteristics other than the relationship many of those working in these areas have with property sales and maintenance. The increasing complexity of business law and taxation has undoubtedly stimulated some of the growth in the legal and accounting services areas, while changing industrial relations laws have made labour hire an attractive proposition for some employers.

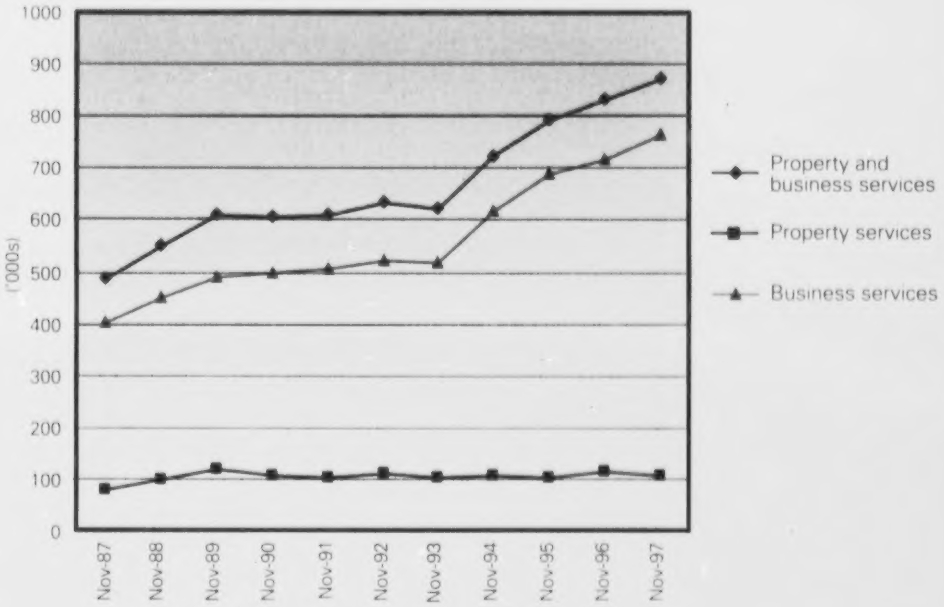
Technological change and the rapidity of change in computing software have influenced the shift to self-employment among computing professionals, who make up one of the major new areas of growth in the outsourcing of many corporate functions. In other areas, some businesses are recognising that applied research, both scientific and market related, not only can provide a competitive advantage but in many areas are becoming essential to product development and the creation of export markets.

Despite the cyclical nature of the property market in Australia, employment in the industry has grown exceptionally strongly over more than a decade, especially in the period from early 1994 onwards, as is shown in chart 12.1. Virtually all of this growth has occurred in the business services sub-division of the industry. Employment in property services has remained virtually static over the last decade at least. Between November 1993 and November 1997, total employment in the industry grew by more than 40% or by more than 250 000 jobs. Over the period November 1987 to November 1997, total employment in the business services sub-division rose by over 89%. In the period from November 1987 to November 1993, the employment growth was a more modest 28%, or 137 500 jobs. By contrast, over the period November 1987 to November 1997, total employment in property services rose by only 28 300 or by around 35%.

The main impetus for this growth appears to be the increasing practice of many Australian businesses to outsource some of their functions previously undertaken in house. In November 1987 about 10.5% of persons employed in the property and business services industry were classified as 'own-account workers', while a further 6.9% were employers. By November 1997, 12.1% of workers were 'own account' while 5% were employers.

While these percentages are not dramatic, they indicate that the number of own-account workers more than doubled over the period 1987–1997. By comparison, the growth across all industries in 'own-account' workers was only 23.6% over that time. Numerically the growth in own-account workers was 54 900 over the period 1987 to 1997, accounting for over 14% of the total growth in the industry. Male own-account workers in property and business services rose by nearly 93%, while females rose by over 135% over the 1987–1997 period.

Chart 12.1: Employment trends in property and business services, Australia, November 1987 to November 1997 (ABS labour force survey)



Source: ABS, *Labour force, Australia*, cat.6203.0, 1987–1997

The occupational categories to show the strongest growth were professionals, especially, computing professionals, accountants and lawyers, and cleaners. Occupational changes are examined in detail below.

In 1995–1996 the property and business services industry accounted for 8.1% of total Australian gross product, 10.2% of total Australian employment and accounts for 14.7% of all Australian businesses.[2] Of the 135 300 businesses classified in this industry, some of the major types are shown in the following table.

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[2] ABS, *Australian national accounts: National income, expenditure and product*, cat.5204.0

Table 12.2: Features of selected service industries within the property and business services industry, Australia, 1995–1996

Industry sector	Number of businesses	Employment (1995–1996)
Real estate agents	**8 082**	**45 956**
Legal services	9 796	67 494
Accounting services	**8 389**	**66 792**
Engineering consultants	5 514	30 736
Computing services	**9 679**	**55 046**

Source: ABS, *Labour force, Australia*, cat.6203.0, ABS sources

Employment characteristics of the industry

In November 1997 employment was distributed 55.8% to males and 44.2% to females, giving males a slightly lower share of employment in the industry than in the labour force overall, which was 56.6% at that time. Part-time employment, representing 23.4% of all jobs in the industry, is slightly less common than in the labour force as a whole, with 25.8% of all jobs being part time.

As shown below in table 12.3, most jobs in the industry are located in New South Wales and Victoria.

Table 12.3: Employment ('000s) in property and business services by State/Territory, 1995

	NSW	Vic	Qld	SA	WA	Tas	NT	ACT
Males	**142.1**	**113.3**	**78.2**	**31.6**	**48.3**	**5.8**	**3.9**	**9.6**
Females	130.9	92.8	65.9	27.3	36.0	4.4	3.4*	6.1
Total	**273.0**	**206.0**	**144.1**	**58.9**	**84.3**	**10.3**	**7.2**	**15.7**

Note: *Subject to sampling variability too high for most practical uses
Some totals are not the sum of components due to rounding
Source: ABS, *Labour force, Australia*, cat.6204.0, 1995

Employment in the industry is relatively more concentrated in Victoria, New South Wales and Western Australia, as is shown in table 12.4 below, while South Australia and Tasmania appear to have a below-average proportion of jobs in this industry.

Table 12.4: Share of employment in property and business services by State, by share of total jobs, 1995

State	Property and business services %	% employed in all industries
NSW	**34.1**	**33.5**
Vic	25.8	24.7
Qld	**18.0**	**18.3**
SA	7.4	8.0
WA	**10.5**	**10.1**
Tas	1.3	2.4
NT	**0.9**	**1.0**
ACT	2.0	2.0
Total	**100.0**	**100.0**

Source: ABS, *Labour force, Australia*, cat.6204.0, 1995

Table 12.5 below shows the age distribution of workers in the industry. The age distribution of the industry closely matches the overall labour force, except that there is a smaller proportion of teenagers employed in the industry than in the whole workforce.

Table 12.5: Age distribution of property and business services workers and all employed, Australia, November 1997

	Age group						Total
	15–19	20–24	25–34	35–44	45–54	55+	
Property and business services ('000s)	27.1	98.5	238.9	232.5	190.7	85.4	873.1
Property and business services %	3.1	11.3	27.4	26.6	21.8	9.8	100.0
All industry %	6.9	11.5	25.2	25.6	21.1	9.8	100.0

Source: ABS, *Labour force, Australia*, cat.6203.0, November 1997

The property and business services industry has a relatively high proportion of persons born overseas in its workforce. In November 1997 almost 27% of its workforce was overseas born, compared with just over 24% for the whole workforce.

- Property and business services has been the fastest growing industry in Australia over the last decade.
- It is the third largest industry of employment in Australia and the fourth largest employment destination for recent TAFE graduates.
- Much of the growth appears related to the practice of outsourcing, with labour hire businesses included in this industry.
- Employment growth in the industry has been largely confined to the business services part of the industry, and most of the occupational growth has been for professionals, such as lawyers, accountants and computing professionals.

Occupational composition

The following table shows the occupational composition of the property and business services industry in comparison with the total workforce. Note that the Australian Standard Classification of Occupations (ASCO) used in table 12.6 is the ASCO second edition. Analysis of occupational changes over the last decade in later sections of this chapter use the earlier ASCO first edition in order to allow comparison over a substantial time period.

The industry is most notable for having almost one-third, 32.8%, of its workforce in the professional group and a further 13.6% in the associate professional category. Including the relatively small managers and administrators group, this means that 52% of the industry's workforce are in the management/professional/associate professional groups compared with just 35.5% of the total workforce.

Table 12.6: Occupational profile property and business services industry and total workforce, Australia, November 1997

Occupation group	Property and business services %	Total workforce %
Managers and administrators	5.6	7.6
Professionals	32.8	17.4
Associate professionals	13.6	10.5
Tradespersons and related	4.4	13.2
Advanced clerical and service	11.5	4.5
Intermediate clerical/sales/service	12.6	17.1
Intermediate production/transport	2.5	9.2
Elementary clerical/sales/service	6.1	10.5
Labourers and related	11.0	10.1
Total	**100.0**	**100.0**

Source: ABS, *Labour force, Australia*, cat.6203.0, November 1997

By contrast, only 31% of the industry's workforce is found in the trade, and advanced/intermediate clerical, sales, service and production/transport areas compared with 44% of the whole workforce. The industry also has a below-average share of jobs in the elementary clerical/sales/service and labouring categories. The implication for the VET sector appears to be that the industry is relatively less dependent upon the VET sector for its skills than its overall size would suggest. Conversely, the industry is relatively more highly dependent on the higher education sector. Nevertheless, as shown later, the industry is an important employment destination for TAFE graduates.

Table 12.7 shows that the industry has a highly qualified workforce, matching the occupational profile shown above, with 41.4% of its workforce holding an associate diploma, diploma, degree or a higher degree. Only 26.2% of the whole workforce is similarly qualified.

The industry also has a low proportion of workers without any post-school qualification. With 40.2% of its workforce lacking a post-school qualification, it is the third most qualified industry, behind only education, and health and community services.

Table 12.7: Qualifications of property and business services industry workers, percentage distribution, Australia, May 1997

	Bachelor's degree or higher	Diploma/ associate diploma	Skilled vocational	Basic vocational	Without post-school qualification
Property and business services	29.5	11.9	7.0	10.6	40.2
Total industry	**17.2**	**9.0**	**12.6**	**9.4**	**49.4**

Source: ABS, *Transition from education to work*, cat.6227.0, May 1997

Occupational trends and skills shortages

As noted earlier, this analysis of changes in the occupational composition of the industry uses the first edition ASCO to allow for a long perspective. Hence the comparison is made for the decade between 1987 and 1996. After 1996, occupational data are based on the newer second edition ASCO classification.

Table 12.8: Employment changes in property and business services, major occupational groups, Australia, 1987–1996

Occupational group	Number in 1987 '000s	Number in 1996 '000s	% change over decade
Managers and administrators	**29.1**	**49.1**	**68.7**
Professionals	138.8	255.2	83.9
Para-professionals	**52.4**	**37.6**	**–28.2**
Tradespersons	16.2	38.5	137.7
Clerks	**147.0**	**204.0**	**38.8**
Sales and personal service	45.4	66.8	47.1
Plant operators, drivers	**13.4**	**14.2**	**6.0**
Labourers	75.7	130.2	72.0
Total	**518.1**	**795.7**	**53.6**

Source: ABS, *Labour force, Australia*, cat.6203.0, various

Numerically, growth in employment over the period was strongest in the professional, clerical and labouring occupational groups, while in percentage terms tradespersons, professionals and labourers made the greatest contribution. It is likely that much of the growth in trades employment has occurred through the growth of labour hire businesses, and is simply a shift in industry of employment rather than representing an overall increase in demand for tradespersons. Overall percentage growth in trades employment was much greater in this industry than in those areas traditionally employing tradespersons. Among trades occupations, the greatest growth in the industry has occurred in the building trades area.

Growth of professionals in the industry has largely occurred in the business professional category. The following table shows the numerical and percentage growth in some of the main occupations (growth of over 5000 jobs) in the industry over the period 1987 to 1996.

Table 12.9: Major occupational growth in the property and business services industry, Australia, 1987–1996

Occupation	('000s) Growth 1987–1996	% growth 1987–1996
Managing supervisors	5 300	133
Civil engineers	6 200	94
Lawyers	10 000	41
Accountants	17 800	55
Personnel specialists	10 400	315
Computing professionals	32 300	234
Other business professionals	10 500	198
Designers and illustrators	6 900	92
Office equipment and computer servicers	7 100	1 420
Office secretaries and stenographers	15 100	32
Data processing operators	6 100	53
Accounting clerks	27 200	90
Receptionists and information clerks	9 500	65
Real estate sales/management	6 700	23
Cleaners	36 300	79

Source: ABS, *Labour force, Australia*, cat.6203.0, 1987–1996

Other than the professional categories of lawyers, accountants and civil engineers, all of the remaining occupations in the above table are addressed by the VET sector. Further labour market analysis is required, however, to determine whether the growth in employment in these occupations in property and business services has resulted from a redistribution of employment or from new demand and, hence, whether increases in skills outputs in these areas are warranted by the apparently very high growth rates being achieved in these occupations.

In the 1997 ESS, 76% of employers in the industry said the current supply of VET graduates was adequate, while a relatively low 22% said that it was inadequate. Of employers surveyed across all industries, 27.5% believed that there were shortages in at least some VET areas.

Of those employers in the property and business services industry who believed there were some shortages of VET graduates, most nominated either the sales/personal service area (28.7%), or the tradesperson category (27.5%). A further 20.3% identified the clerical area as an area of shortage. It is likely that shortages also exist in some areas of accountancy, although the Department of Employment, Education, Training and Youth Affairs (DEETYA) skilled vacancy survey, (SVS) shows that demand in this occupation has declined over the last two years. The SVS also shows that demand for computing professionals has risen quite strongly over the last two years, from an indexed level of 72.7 in February 1996, to 106 in February 1998.

The national industry training advisory body (ITAB), the Finance and Administration Industry Training Advisory Body (FAITAB), which covers part of the property and business services industry, reported to ANTA in 1997 that:

> *. . . the areas of current or predicted skills shortage identified at the national level, include: accountants; business professionals; general managers; financial managers; computing personnel; personnel and industrial relations managers; and clerks-all. At various State and Territory levels, several more skills areas are identified as possible shortages.*

The national ITAB covering the property service area (which also includes a small part of the personal and other services industry), Property Services Training Australia (PSTA), advised ANTA in 1997 as follows:

> *It is suggested that the main cause of shortfalls in skilled labour within the industry relate to the introduction of new technology; poor levels of literacy and numeracy among adults and school leavers; the privatisation of services; consumer demand for new services; national bans on chemicals; and demands for more ecologically sound approaches to materials management.*
>
> *Ongoing skill shortages are occurring in the following areas: valuers; real estate (agents, salespersons and property managers); cleaners; security services (guards, access security, security analysts); and pest control managers.*
>
> *Other projected skilled labor shortages are identified as: cartographers and surveyors; architects (and associates); building services associates; land economists; waste auditors and waste treatment technicians; and generic management, supervision, human resource managers and workplace trainers and assessors.*

Hours of work and earnings

The property and business services industry has close to the all-industry average of its employment split between males and females, with 55.8% of its workforce male, compared with the total workforce's 56.6%. The industry has a relatively low proportion of part-time jobs, 18%, compared with the whole labour market where 25.8% of all jobs are part time.

Overall average weekly hours worked in the industry in November 1997 were 36.7, a little higher than the all-industry average of 35.6. Long working hours appear to be a feature of the industry. In November 1997 nearly 23% of the workers in the industry, compared with about 20% of all workers, worked 49 hours or more. Males worked longer hours than females. More than 32.6% of males in the industry worked 49 hours or more compared with 28.6% of all employed males. Only around 10% of females in the industry worked 49 or more hours a week. This disparity in over-full-time working hours appears to be emerging as a new source of workplace discrimination between males and females in several industries.

As with other industries, such as finance and insurance, this trend might reflect a higher concentration of males in demanding senior management positions. However, it also emerges as an important social issue in these and other industries.

Since 1984 the average hours worked in the industry have risen slightly by 0.9 hours, largely through an increase in average hours worked by women, up from 29 hours to 31 hours.

The following table shows the distribution of employment between full-time and part-time workers by sex.

Table 12.10: Property and business services industry employment, by sex and hours worked, Australia, November 1997

	Full-time ('000s)		Part-time ('000s)		Total ('000s)	
	No.	%	No.	%	No.	%
Males	423.9	63.4	63.4	31.1	487.3	55.8
Females	245.0	36.6	140.7	68.9	385.7	44.2
Total	**668.9**	**100.0**	**204.1**	**100.0**	**873.1**	**100.0**

Note: Not all components sum to totals due to rounding

Source: ABS, *Labour force, Australia*, cat.6203.0, 1997

Managerial-level earnings in the property and business services industry are moderately above average. In 1996 managers in the industry earned, on average, $940 weekly compared with the all-industry figure of $917.50. Non-managerial adult weekly earnings were a little lower than the all-industry average at $676.60, against the all-industry level of $683.

This below-average level of earnings for non-managerial earnings was fully explained by females in the industry earning well below their male counterparts. Adult female full-time non-managerial weekly earnings were, at $595.80, about $10 below the all-industry average for women, while the figure was about $150 lower than the equivalent figure for males. Male non-managerial workers in property and business services actually averaged $746.80 weekly, about $16 dollars above the all-industry average for that group.

The same inequality was evident in full-time managerial earnings. Female managers in property and business services earned $712.60, compared with males in the industry who earned $1001.80. This meant that females earned below the all-industry average for female managers, which was $729.20, and that full-time female managers in the industry actually earned less than the average *non*-managerial full-time male.

Training in property and business services

Because of the great diversity of activities included within this industry, it is not possible to make any reasonable estimate of the level of VET resourcing allocated to the industry. As noted earlier, the industry appears to have a significantly greater dependence upon the higher education sector than the average industry division in Australia.

Because the overall qualifications profile of the industry is high, this wealth of university-level qualifications does not mean that the industry is conversely less dependent on the VET sector. In fact, the proportion of those with a VET qualification in the industry closely matches the overall share of the total workforce.

The industry is a major employer of a number of key occupations. It is the largest single employer of computing professionals, employing over 41% of those in the occupation and, in this regard, the 5.4% of government-funded VET resources allocated to computing is a major source of government support for the industry. More than a third of all personnel specialists are found in this industry, as are nearly 47% of all accountants. While many of these workers would have university-level qualifications, many also enter these occupations with VET credentials. The ANTA-defined training area of business and clerical receives almost 17% of total government VET resources and would therefore be another important source of support to the industry's skills formation.

Unfortunately, neither the field of study codes nor the discipline codes used in the enrolment of students under the Australian Vocational Education and Training Management Information Statistical Standard (AVETMISS) allows for the specific identification of most of those students likely to be studying courses associated with this industry. However, the field of study 'business administration, economics' and the discipline group 'administration, business, economics, law' would be the main areas of relevant enrolments in VET courses.

In 1996 the 'business administration, economics' field of study accounted for over 21% of all student enrolments in VET, and the related discipline group 'administration, business, economics, law' accounted for nearly 20% of all module enrolments.[3] The discipline group 'mathematics, computing' provided 10.5% of all module annual hours in Australia in 1996.

The field of study enrolment data show that there were nearly 380 000 student enrolments in the business administration area, of which over 60% were females. In the related discipline group, females represented about 63% of module enrolments. Males predominated in the mathematics, computing discipline, making up about 53% of module enrolments.

Employer satisfaction with VET

In the 1997 ESS, there were 241 employers surveyed who were defined as being in the property and business services industry.

Mean satisfaction scores with VET across all industries ranged between 5.7 and 7 out of a possible 10. The property and business services industry recorded a mean satisfaction level of 6.7, which was the mean rating for all industries. Only three industries scored lower than this. Satisfaction with TAFE, as a sub-set of the VET system, was at the same level of 6.7.

Satisfaction scores between the State varied quite markedly, between a high of 7.3 in Victoria to a low of 5.9 in Queensland.

In the ESS, employers were also asked to identify the areas in which the VET sector needed to improve its service. Two areas in particular stood out in the responses from the employers in this industry, 'graduates' work ethic' and 'the relevance of course content'. Across all industries the former priority was identified as the highest priority for improvement. The employers in the property and business services industry were, however, more likely than those in any other industry to nominate it as the first priority for improvement, with 21.8% identifying the issue as the highest priority.

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[3] NCVER, *Australian vocational education and training statistics 1996: In detail*

Importantly, the industry also had the highest proportion of employers identifying the need for improvements to course content. Of all employers in the industry, 20% identified 'relevance of course content' as the area they would most like to see improved.

Again, given the diversity of employment in the industry, it is difficult to interpret these results directly into action to change curriculum. It is also difficult to determine what steps would be appropriately taken by the VET sector to change the work ethic of VET graduates. Nevertheless, the results appear to warrant further investigation into what employers in the industry really mean by this criticism.

VET graduates in property and business services

The 1997 TAFE GDS received responses from 3994 graduates employed in the property and business services industry at the time of the survey, representing 9.3% of all employed graduates, an increase from the 8.8% finding employment in the 1995 GDS. This meant that property and business services was the fourth largest employment destination industry for TAFE graduates in 1997. In other words, this industry provided more jobs for TAFE graduates in 1997 than either construction, or accommodation, cafés and restaurants. It is, therefore, unfortunate that in contrast with those industries, the industry training area definitions do not allow the clear identification of the level of government resources allocated to this important destination industry for graduates of VET.

Satisfaction with the relevance of their course was quite high for the graduates working in property and business services, contrasting with the criticism by employers of the relevance of course content. Over 51% of the surveyed graduates working in the industry gave a 'highly relevant' rating to their TAFE course, compared with about 49% of all graduates giving this rating. Only five of the 16 other industries received a higher rating.

Graduates were asked to rate on a 10-point scale a number of aspects of their course. The following analysis compares the proportion giving a rating of 7 or better on the 10-point scale working in property and business services with all graduates.

Despite the high overall high-relevance rating given to their TAFE course by graduates working in property and business services, it is clear from table 12.11 that there are some areas identified by graduates as warranting attention.

As with the related finance and insurance industry, graduates working in property and business services were critical of the quality and availability of equipment provided for practising their skills, giving ratings well below the all-industry average on these items. They also gave lower-than-average ratings to 'instructors' knowledge' and 'course content reflecting industry practice', the latter supporting the similar criticism from employers.

Table 12.11: Rating of course by graduates employed in property and business services and all graduates

Issue	Property and business services	All employed graduates
Instructors' knowledge	82.9	85.2
Course content reflects industry practice	69.3	72.2
Presentation of material	68.5	73.2
Quality of equipment	55.3	62.2
Sufficient equipment	55.2	60.0
Info on choosing course	57.0	58.6
Info on careers/jobs	36.4	41.1
Usefulness for job prospects	72.0	71.8
Qualification well regarded by employers	64.9	64.9
Balance instruction and practice	66.4	69.8
Assessment method understood	77.4	78.5
Time/venue convenience	76.4	75.3
Overall course quality	82.3	84.1

Source: NCVER, 1997 TAFE graduate destination survey, unpublished data

As with all graduates, however, the strongest dissatisfaction was clearly with the provision of information on jobs and careers. The rating given by graduates working in property and business services to this item shows relatively greater dissatisfaction than all graduates. This issue clearly emerges from the TAFE GDS as the highest priority for improvement. There appears to be no clearer finding from this survey than there is an urgent requirement to review the provision of career information to intending TAFE students and, probably, based on the depth of dissatisfaction among TAFE graduates, a need for such a review to encompass all students.

Employment outcomes

As noted earlier, property and business services is a very significant employment destination for TAFE graduates, with 9.3% of all surveyed TAFE graduates finding employment in that industry in 1997. Over half, 55%, of the surveyed graduates were located in New South Wales.

The qualifications profile of the TAFE graduates fairly closely reflected the overall pattern of qualifications of all TAFE graduates. The most commonly held credential was a certificate (other), 21% of graduates, followed by a disproportionately high 18% with an associate diploma. Only 12.4% of all surveyed graduates held an associate diploma. A relatively high proportion of graduates working in property and business services, 16%, held an advanced certificate, compared with 10% of all graduates.

About 3000 graduates were employed in property and business services during the final semester of their course. Of these, about 46% received some form of financial support from their employer during their final semester, compared with around 51% of all graduates. Most of this assistance was as paid fees or paid time off work.

Of those graduates working in the industry at the time of the survey, about 60% already had a job on graduation. Nearly 10% had taken more than three months to find their job, a relatively high proportion. Nearly 74% were employed full time, a figure well above that for all graduates, of whom only 67% were working full time. For about one-third of those working full time this represented their first full-time job, about the same result as for all surveyed graduates.

Graduates were asked to identify the main reasons for undertaking their course of study and to what extent their goals had been achieved. The following table summarises the responses to these questions.

Table 12.12: TAFE graduates working in property and business services—reasons for doing course and achievement of aim

Reason and number	Fully achieved (%)	Partly achieved (%)
Get a job (1135)	73.0	14.9
Try for different career (556)	56.8	18.5
Get better job/promotion (615)	56.6	22.9
Requirement of job (333)	86.5	9.9
Get extra skills (691)	76.6	18.7
Personal interest (415)	81.7	14.0

Source: NCVER 1997 TAFE graduate destination survey, unpublished data

Clearly, getting a job was the main motivation for graduates working in property and business services, with over 28% giving this as their reason for undertaking their course. The results would imply that significant numbers working in the property and business services industry were unsuccessful in their efforts to change their career or to gain a promotion, although the majority in both these areas did achieve their aim.

Graduates working in the property and business services industry were in the middle range in terms of total weekly earnings. Males working full time earned on average $631, while full-time females earned $509. In only three other industries—mining, transport and storage, and personal and other services— was there a greater gap in the weekly full-time earnings of male and female TAFE graduates. This wide disparity in male and female earnings reflects the broader income pattern of the property and business services industry, in which all non-managerial full-time females earn about 80% of non-managerial full-time male workers.

For females working in the industry, the attainment of a TAFE qualification appears to make no difference in reducing the income gap in comparison with their male counterparts. Further analysis of gender differences in choice of course and occupational destination is needed to improve understanding of the reasons for this discrepancy.

Employer support for training

In 1996, the Australian Bureau of Statistics (ABS) conducted the employer training expenditure survey (cat.6353.0), a survey of structured training provided by employers in the September quarter of that year. A similar survey was undertaken three years previously.

In the 1996 survey, employers in property and business services were close to the average for all employers in terms of expenditure on structured training per employee and the percentage of total wages and salaries spent on training. Expenditure per employee, at $191.48, was just above the all-industry average of $185.49 while, as a percentage of wages and salaries, the industry's 2.48% was just below the all-industry figure of 2.54%.

In the equivalent survey undertaken in 1993 employers in property and business services spent considerably more, $225.73 per employee, on training and a higher 3.29% of their payroll. This reduction was the norm, although the 15% reduction in training expenditure per person by employers in property and business services was considerably more than the overall reduction among all employers of about 3%.

To some extent, the strong employment growth in the industry between 1993 and 1996 makes these per capita statistics appear worse than they might really be. Over the three-year period, the industry increased its overall expenditure on structured training by nearly 27%, compared with the all-industry increase of just 6.9%.

If, as has been suggested earlier, some of the industry's employment growth resulted from a shift in industry of employment of already highly skilled workers, such as tradespersons working for labour hire companies, then the lower per capita training expenditure might not necessarily represent a lower commitment to training than in 1993.

The ABS employer training practices survey (cat.6356.0) looked at employer provision of both structured and unstructured training over the 12 months prior to February 1997. It indicated that 18% of employers had increased their training expenditure over the previous year, while 22% of employers in property and business services had done so.

Over the previous year, 36% of employers in the industry said that they had provided structured training, compared with the 18.54% in the industry who said that they had provided structured training in the three months of the September quarter 1996. It is difficult to judge whether this represents an increase over the year or whether it merely indicates that training is not undertaken uniformly throughout the year. Of those employers in this survey not providing structured training, 55% indicated the reason for not doing so was because their current workforce was already adequately trained. In fact, for all employers in the industry, this was the most common reason given for either not providing training or not providing more training than they already did.

- Employers in the industry would like to see an improvement in the work ethic of VET graduates and in the relevance of course content. The desire to see improvement in these areas was stronger in property and business services than in any other industry.
- TAFE graduates working in the industry generally expressed satisfaction with their course. However, they were less happy with the availability and quality of equipment provided in colleges for them to practise their skills.
- TAFE graduates working in property and business services also gave a low satisfaction rating to the provision of information on jobs and careers.
- Employers in the industry have reduced their level of training provision between 1993 and 1996 by around 15%, much more than employers in general. To some extent, this might reflect the movement into the industry of skilled workers from other industries.

Some training issues in property and business services

- Employers in the property and business services industry have expressed dissatisfaction with both the work ethic of VET graduates working in their industry and concern over the relevance of course content. While addressing the question of changing work ethics among graduates probably requires further investigation to determine what is actually meant by this, there appears to be support from TAFE graduates for the concerns over course relevance.
- Graduates also expressed concern over the related matter of the quality and availability of equipment on which to practise during their course. Given the importance of the industry as an employer of TAFE graduates, attention to this criticism appears to be a priority.
- The property and business services industry was the fourth major employment destination for TAFE graduates in 1997. Yet, unlike many smaller industries, the ANTA-defined training areas do not allow the ready identification of students enrolled in courses targetted at the skill needs of the industry. The qualifications profile of the industry shows about as many workers with sub-degree post-school qualifications as those with a degree or higher qualification in the industry. While it is relatively easy to identify some of the main areas of university provision largely dedicated to the industry (law, accountancy, computer studies), it is difficult to judge whether the industry receives the level of government-funded training which its importance as an employer would warrant.
- The income of female TAFE graduates working full time in the property and business services industry was only about 80% of the equivalent male rate. The reasons for this are not evident from the available information; however, it reflects

the situation for all full-time workers in the industry. This suggests that if occupational segregation is the main factor in the discrepancy, better career information needs to be provided to ensure that females enrolling in courses relevant to the industry are aware of possible employment and earnings outcomes.

- If the industry is growing, in part, through the rapid increase in outsourcing and labour hire, what special training needs might be emerging in those sectors, both for the workers and for those establishing and managing those businesses? Does the VET sector have a role to play in providing specific skills for those in some parts of the industry, who might already hold university qualifications but who might require vocationally specific skills in small business management?

The ANTA *Report on national industry vocational education and training plans* summarised material compiled by national ITABs. The following key issues in the cross industries area of cleaning skills were:

> - *portability of recognition—particularly when credentials issued against a given Australian Qualification Framework (AQF) level in a 'parent' industry are differently aligned and packaged in 'user' industries; and*
> - *the addition of units that are 'user-industry' specific and their alignment to different AQF levels.*
>
> *PSTA suggests that the issue of portability of cross-industry recognition, as opposed to industry-specific recognition, needs to be monitored as an ongoing issue in the training agenda.*
>
> *Mutual recognition issues were of concern to the industry in which the continued uneven licensing of occupational groups, specifically at entry-level training to the industry, was substantially affected by prescribed training which was not based on competency standards.*

The national finance and administration ITAB raised the following issues, some of which are relevant to the business services part of this industry:

> *Various issues and challenges facing the expansion of training provision by the finance and business sector can be categorised as:*
>
> - *internationalisation with the need to focus on greater co-operation between VET agencies and industry internationally*
> - *professionalism in striving to develop a professional image and reputation*
> - *consistency, relevance and flexibility of training*
> - *credentials and outcomes are required for a consistent training framework*
> - *with the contraction of the industry, regional issues have serious implications for employment in rural and remote areas*

Notes

The following table is extracted from the ANTA resource allocations for 1997 document, available at their website. It shows the planned allocations of government-funded training between the ANTA-defined 'training areas' in terms of 'annual hours curriculum' (AHC).

Table A12.1: Key national shifts in activity between 1996 revised estimates and 1997 projected activity (AHC '000s)

Industry training area	1996 revised	1997 projected	Total increase	Total increase as % of 1996 revised	% of overall increase
Category A					
Arts, Entert, Sports and Rec	11 408	11 928	520	4.6	5.5
Automotive	8 221	8 576	355	4.3	3.7
Building and Construction	18 785	19 009	224	1.2	2.4
Comm Services, Health and Ed	20 910	22 382	1 471	7.0	15.5
Finance, Banking and Insurance	3 420	3 468	48	1.4	0.5
Food Processing	2 454	2 851	396	16.1	4.2
TCF and Furnishings	5 714	5 813	100	1.7	1.0
Communications	1 883	1 963	80	4.3	0.8
Engineering and Mining	15 654	16 607	952	6.1	10.0
Primary Industry	11 874	12 217	343	2.9	3.6
Process Manufacturing	397	479	82	20.6	0.9
Sales and Personal Service	6 527	6 752	225	3.4	2.4
Tourism and Hospitality	16 707	18 151	1 444	8.6	15.2
Transport and Storage	1 686	1 851	164	9.8	1.7
Utilities	11 898	12 145	247	2.1	2.6
Category B					
Business and Clerical	42 412	43 117	705	1.7	7.4
Computing	11 969	12 641	672	5.6	7.1
Science, Technical and Other	6 727	6 870	143	2.1	1.5
Category C					
Gen Education and Training	40 046	41 212	1 166	2.9	12.3
Unallocated	622	779	157	25.2	1.6
Total	**239 316**	**248 810**	**9 494**	**4.0**	**100.0**

Note: TCF – textiles, clothing and footwear

Source: Publications, *ANTA Resource Allocations 1997*, <www.anta.gov.au>

Table A12.2: Employed persons by occupation in the property and business services industry, 1987 and 1996

Occupation (ASCO 4-digit)	1987	1996	Change 1987 to 1996	
				Average annual
	('000s)	('000s)	('000s)	%
1201 General managers	4.5	6.8	2.3	4.8
1301 Finance managers	1.6	4.3	2.7	12.0
1303 Sales and marketing managers	5.9	8.8	2.9	4.7
1399 Other specialist managers	2.2	3.8	1.6	6.4
1599 Other managing supervisors (sales and service)	3.1	5.0	1.9	5.6
1601 Managing supervisors (other business)	4.0	9.3	5.3	10.1
2107 Life scientists	4.2	5.8	1.6	3.8
2201 Architects and landscape architects	9.5	11.5	2.0	2.2
2205 Cartographers and surveyors	4.2	4.2	0.0	0.0
2209 Civil engineers	6.6	12.8	6.2	7.9
2211 Electrical and electronics engineers	2.6	6.5	3.9	11.0
2213 Mechanical engineers	3.4	3.7	0.3	1.0
2605 Lawyers	24.4	34.4	10.0	4.0
2701 Accountants	32.1	49.9	17.8	5.2
2703 Public relations officers	4.6	7.2	2.6	5.3
2705 Personnel specialists	3.3	13.7	10.4	17.7
2707 Computing professionals	13.8	46.1	32.3	14.8
2799 Other business professionals	5.3	15.8	10.5	13.3
2805 Designers and illustrators	7.5	14.4	6.9	7.7
3103 Science technical officers and technicians	5.4	5.3	–0.1	–0.2
3201 Electrical and electronic engineering assoc./ technicians	2.8	3.5	0.7	2.6
3203 Civil engineering associates and technicians	5.5	4.6	–0.9	–2.0
3207 Building architectural and surveying assoc/ technicians	6.2	7.8	1.6	2.7
3401 Registered nurses	0.9	3.6	2.7	17.2
3501 Police	17.1	0.2	–16.9	–39.9
3999 Other para-professionals (including ex-service)	4.6	2.9	–1.7	–5.1
4103 Metal fitters and machinists	3.5	6.8	3.3	7.9
4315 Office equipment and computer servicers	0.5	7.6	7.1	36.5
4405 Painters decorators and signwriters	1.1	4.9	3.8	18.6
5101 Office secretaries and stenographers	47.6	62.7	15.1	3.2
5103 Typists and typist-clerks	7.9	3.7	–4.2	–8.3
5105 Word processing operators	4.2	3.3	–0.9	–2.7
5201 Data processing machine operators	11.6	17.7	6.1	4.9
5301 Accounting clerks	30.1	57.3	27.2	7.6
5401 Library and filing clerks	2.5	5.5	3.0	9.4
5601 Receptionists and information clerks	14.7	24.2	9.5	5.9
5907 Legal and related clerks	7.0	6.5	–0.5	–0.8
5999 Other clerks	12.1	8.3	–3.8	–4.2

Occupation (ASCO 4-digit)	1987	1996	Change 1987 to 1996	
				Average annual
	('000s)	('000s)	('000s)	%
6105 Real estate salespersons and property managers	**29.6**	**36.3**	**6.7**	**2.4**
6201 Sales representatives	5.9	7.7	1.8	3.1
6301 Sales assistants	**1.9**	**6.1**	**4.2**	**14.3**
6599 Other salespersons	1.6	3.7	2.1	10.1
7105 Truck drivers	**4.8**	**3.3**	**-1.5**	**-4.2**
7211 Fire fighters	3.9	0.0	-3.9	-100.0
8199 Other trades assistants and factory hands	**1.2**	**4.0**	**2.8**	**14.8**
8301 Cleaners	45.7	82.0	36.3	6.9
8911 Guards and security officers	**9.5**	**16.7**	**7.2**	**6.7**
8999 Other labourers and related workers	6.6	9.2	2.6	3.9
Other occupations	**79.3**	**126.3**	**47.0**	**5.5**
Total all occupations	**518.1**	**795.7**	**277.6**	**5.0**

Note: As estimates of less than 3500 are subject to high statistical error, they are listed against specific occupations only where there was a higher estimate in either 1987 or 1996. Where estimates of less than 3500 were recorded for both 1987 and 1996, they are included in the 'other occupations' category.

Source: ABS labour force survey, unpublished data

Table A12.3: Educational attainment of employed persons by industry, occupation (1-digit ASCO) and type of post-school qualification at 1996 Census

Property and business services	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
ASCO code and occupation									
1 Managers and Administrators	23 500	3 965	3 562	5 505	2 287	38 819	3 623	19 464	61 906
2 Professionals	144 832	13 434	13 917	7 305	4 880	184 368	10 029	37 556	231 953
3 Associate Professionals	16 634	6 116	11 664	16 710	6 307	57 431	8 974	44 031	110 436
4 Tradespersons and Related Workers	1 241	549	1 182	14 748	826	18 546	1 837	9 666	30 049
5 Advanced Clerical and Service Workers	5 542	3 502	3 794	1 821	9 012	23 671	10 322	46 807	80 800
6 Intermediate Clerical, Sales and Service Workers	7 657	2 989	4 159	4 224	6 246	25 275	7 793	56 421	89 489
7 Intermediate Production and Transport Workers	538	212	286	2 817	789	4 642	1 217	12 652	18 511
8 Elementary Clerical, Sales and Service Workers	2 654	1 075	1 098	4 233	1 473	10 533	3 765	28 554	42 852
9 Labourers and Related Workers	2 220	1 126	1 088	6 157	1 632	12 223	6 041	57 022	75 286
0 Inadequately described	1 397	300	242	918	209	3 066	553	2 990	6 609
Not stated	278	63	61	163	52	617	446	1 241	2 304
Not applicable	–	–	–	–	–	–	–	–	–
Total	**206 493**	**33 331**	**41 053**	**64 601**	**33 713**	**379 191**	**54 600**	**316 404**	**750 195**

Source: ABS, 1996 Census of population and housing

Table A12.4: Educational attainment of employed persons by industry, occupation (3-digit ASCO) and type of post-school qualification at 1996 Census

Property and business services	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
ASCO code and occupation									
100 Managers and Administrators nfd	2 906	687	463	1 125	388	5 569	836	4 020	10 425
110 Generalist Managers nfd	3	0	4	0	0	7	3	6	16
111 General Managers and Administrators	3 657	543	462	787	276	5 725	493	2 624	8 842
119 Miscellaneous Generalist Managers	746	224	191	732	98	1 991	239	956	3 186
120 Specialist Managers nfd	546	84	74	88	47	839	59	365	1 263
121 Resource Managers	4 352	615	656	390	423	6 436	558	3 045	10 039
122 Engineering, Distribution and Process Managers	3 992	562	668	925	333	6 480	410	2 464	9 354
123 Sales and Marketing Managers	3 619	683	571	804	450	6 127	590	3 695	10 412
129 Miscellaneous Specialist Managers	3 486	512	423	570	240	5 231	387	1 840	7 458
131 Farmers and Farm Managers	193	55	50	82	31	411	50	449	910
200 Professionals nfd	3 405	147	161	125	98	3 936	147	661	4 744
210 Science, Building and Engineering Professionals nfd	28	0	3	0	0	31	0	3	34
211 Natural and Physical Science Professionals	9 254	369	393	150	174	10 340	221	789	11 350
212 Building and Engineering Professionals	23 798	2 391	2 580	1 794	304	30 867	1 312	2 512	34 691
220 Business and Information Professionals nfd	460	49	41	16	20	586	34	192	812
221 Accountants, Auditors and Corporate Treasurers	31 397	2 067	4 154	166	354	38 138	2 304	6 586	47 028
222 Sales, Marketing and Advertising Professionals	5 058	764	639	689	589	7 739	667	4 716	13 122
223 Computing Professionals	19 101	1 653	1 938	1 072	1 017	24 781	1 298	8 204	34 283
229 Miscellaneous Business and Information Profs	13 905	1 745	2 071	1 301	1 343	20 365	1 447	7 124	28 936
230 Health Professionals nfd	0	0	0	0	0	0	0	0	0
231 Medical Practitioners	452	10	4	3	3	472	27	17	516
232 Nursing Professionals	463	619	18	6	66	1 172	111	56	1 339

Property and business services	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
238 Miscellaneous Health Professionals	549	71	23	8	17	668	42	49	759
240 Education Professionals nfd	17	0	3	0	0	20	0	0	20
241 School Teachers	1 357	410	95	17	8	1 887	63	110	2 060
242 University and Vocational Education Teachers	588	96	52	39	30	805	47	166	1 018
249 Miscellaneous Education Professionals	710	90	58	41	38	937	63	290	1 290
250 Social, Arts and Miscellaneous Professionals nfd	40	3	3	3	0	49	0	3	52
251 Social Welfare Professionals	1 357	149	168	79	99	1 852	126	634	2 612
252 Miscellaneous Social Professionals	27 742	408	176	54	189	28 569	1 040	1 222	30 831
253 Artists and Related Professionals	4 629	2 205	1 152	1 527	429	9 942	942	3 898	14 782
254 Miscellaneous Professionals	520	185	187	214	102	1 208	136	325	1 669
300 Associate Professionals nfd	121	34	52	84	67	358	62	350	770
310 Science/Engineering and Related Assoc Profs nfd	192	42	284	184	84	786	61	274	1 121
311 Medical and Science Technical Officers	1 429	284	822	370	524	3 429	309	2 386	6 124
312 Building/Engineering Associate Professionals	1 943	1 124	4 814	4 242	1 026	13 149	1 226	4 902	19 277
320 Business and Administrative Assoc Profs nfd	41	11	8	11	4	75	10	59	144
321 Finance Associate Professionals	1 063	169	201	116	115	1 664	175	948	2 787
329 Miscellaneous Business/Admin Assoc Profs	9 353	3 569	4 533	9 390	3 680	30 525	6 031	27 752	64 308
330 Managing Supervisors (Sales and Service) nfd	0	3	3	3	3	12	0	11	23
331 Shop Managers	209	75	66	212	66	628	113	975	1 716
332 Hospitality and Accommodation Managers	160	120	66	511	66	923	133	751	1 807
339 Miscellaneous Mngr. Supervisors (Sales and Service)	551 1	458	434	1 105	384	3 932	518	4 112	8 562
340 Health and Welfare Assoc Professionals nfd	0	0	0	0	0	0	0	0	0
341 Enrolled Nurses	11	18	23	7	91	150	11	16	177
342 Welfare Associate Professionals	127	25	57	22	17	248	30	131	409
349 Miscellaneous Health and Welfare Associate Profs	6	10	21	9	14	60	10	15	85
390 Other Associate Professionals nfd	3	0	0	0	0	3	0	0	3
391 Police Officers	9	4	7	17	8	45	8	46	99

Property and business services	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
399 Miscellaneous Associate Professionals	414	171	273	427	160	1 445	276	1 303	3 024
400 Tradespersons and Related Workers nfd	38	12	52	364	25	491	57	256	804
410 Mechanical/Fabrication Engineering Trades nfd	0	0	3	17	0	20	0	3	23
411 Mechanical Engineering Tradespersons	113	42	155	3 719	50	4 079	242	837	5 158
412 Fabrication Engineering Tradespersons	17	8	29	1 486	32	1 572	131	569	2 272
421 Automotive Tradespersons	20	5	28	1 431	20	1 504	121	540	2 165
431 Electrical and Electronics Trades	628	238	592	2 893	330	4 681	520	2 191	7 392
440 Construction Tradespersons nfd	0	0	0	4	0	4	0	13	17
441 Structural Construction Trades	15	17	27	896	24	979	99	670	1 748
442 Final Finishes Construction Trades	59	59	50	1 915	83	2 166	230	1 356	3 752
443 Plumbers	7	6	8	375	9	405	23	171	599
451 Food Tradespersons	7	12	10	151	16	196	46	395	637
460 Skilled Agricultural/Horticultural Workers nfd	0	0	0	0	0	0	0	0	0
461 Skilled Agricultural Workers	5	3	7	22	12	49	16	117	182
462 Horticultural Tradespersons	90	42	83	292	85	592	99	1 055	1 746
490 Other Tradespersons and Related Workers nfd	0	0	0	3	0	3	3	10	16
491 Printing Tradespersons	51	27	34	601	53	766	85	547	1 398
492 Wood Tradespersons	8	0	3	92	0	103	14	97	214
493 Hairdressers	4	0	3	56	3	66	5	14	85
494 Textile, Clothing and Related Trades	26	26	22	50	26	150	35	146	331
498 Miscellaneous Tradespersons and Related Wkrs	150	50	81	382	55	718	113	680	1 511
500 Advanced Clerical and Service Workers nfd	9	3	6	0	3	21	3	11	35
511 Secretaries and Personal Assistants	2 886	2 601	2 530	1 009	7 505	16 531	8 259	32 387	57 177
590 Other Advanced Clerical and Service Wkrs nfd	0	0	3	0	3	6	0	3	9
591 Advanced Numerical Clerks	1 280	622	845	336	791	3 874	1 208	8 872	13 954
599 Miscellaneous Advanced Clerical and Service Wkrs	1 367	278	412	474	713	3 244	853	5 534	9 631

Property and business services	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
600 Intermediate Clerical, Sales and Service Wkrs nfd	19	4	11	12	17	63	18	95	176
610 Intermediate Clerical Workers nfd	56	11	26	11	39	143	24	271	438
611 General Clerks	1 921	759	886	688	1 407	5 661	1 816	1 49 7	22 404
612 Keyboard Operators	883	383	465	261	1 138	3 130	1 285	7 968	12 383
613 Receptionists	555	438	666	344	1 368	3 371	1 516	9 834	14 721
614 Intermediate Numerical Clerks	1 113	324	877	320	646	3 280	812	8 247	12 339
615 Material Record and Despatch Clerks	352	101	198	318	194	1 163	257	2 446	3 866
619 Miscellaneous Intermediate Clerical Workers	1 054	260	373	439	414	2 540	459	4 344	7 343
621 Intermediate Sales and Related Workers	1 184	410	374	1 071	375	3 414	581	4 595	8 590
630 Intermediate Service Workers nfd	3	3	0	4	0	10	6	20	36
631 Carers and Aides	194	121	105	147	114	681	193	1 191	2 065
632 Hospitality Workers	104	55	66	86	71	382	122	995	1 499
639 Miscellaneous Intermediate Service Workers	220	122	112	523	461	1 438	704	1 488	3 630
700 Intermediate Production and Transport Wkrs nfd	10	5	5	121	38	179	41	342	562
710 Intermediate Plant Operators nfd	3	3	0	78	3	87	29	292	408
711 Mobile Plant Operators	18	17	28	409	79	551	157	2 234	2 942
712 Intermediate Stationary Plant Operators	31	17	28	428	209	713	167	1 372	2 252
720 Intermediate Machine Operators nfd	61	26	31	228	32	378	158	1 241	1 777
721 Intermediate Textile/Clothing/Related Mach Ops	13	8	11	26	9	67	16	272	355
729 Miscellaneous Intermediate Machine Operators	45	15	31	121	29	241	62	465	768
731 Road and Rail Transport Drivers	65	59	38	747	107	1 016	267	3 480	4 763
790 Other Intermediate Prod'n and T'port Wkrs nfd	0	0	0	0	0	0	0	0	0
791 Intermediate Mining and Construction Workers	25	6	11	244	162	448	79	553	1 080
799 Misc Intermediate Prod'n and Transport Wkrs	267	58	102	414	121	962	241	2 401	3 604
800 Elementary Clerical, Sales and Service Wkrs nfd	5	0	3	4	6	18	7	64	89
811 Elementary Clerks	836	226	260	278	324	1 924	454	4 741	7 119

Property and business services	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
820 Elementary Sales Workers nfd	4	0	3	0	0	7	3	21	31
821 Sales Assistants	705	240	245	574	254	2 018	545	3 807	6 370
829 Miscellaneous Elementary Sales Workers	511	245	189	443	310	1 698	551	5 013	7 262
831 Elementary Service Workers	592	364	400	2 934	578	4 868	2 205	14 908	21 981
900 Labourers and Related Workers nfd	61	24	30	227	47	389	150	1 752	2 291
911 Cleaners	1 753	945	811	4 494	1 261	9 264	5 140	46 903	61 307
920 Factory Labourers nfd	0	0	0	3	0	3	3	35	41
921 Process Workers	76	34	35	261	67	473	155	1 738	2 366
922 Product Packagers	66	17	25	68	41	217	126	1 386	1 729
990 Other Labourers and Related Workers nfd	0	3	0	3	0	6	0	21	27
991 Mining, Construction and Related Labourers	105	33	93	416	84	731	171	2 169	3 071
992 Agricultural and Horticultural Labourers	30	11	22	90	34	187	56	761	1 004
993 Elementary Food Preparation and Related Wkrs	45	20	14	50	30	159	80	786	1 025
999 Miscellaneous Labourers and Related Workers	85	39	57	546	68	795	161	1 471	2 427
099 Inadequately described	1 397	300	242	918	209	3 066	553	2 990	6 609
Not stated	278	63	61	163	52	617	446	1 241	2 304
Not applicable	–	–	–	–	–	–	–	–	–
Total	**206 487**	**33 333**	**41 062**	**64 597**	**33 711**	**379 190**	**54 603**	**316 406**	**750 199**

Note: nfd – not further defined

Source: ABS, 1996 Census of population and housing

Table A12.5: Employment in property and business services, November 1987 to November 1997

	Nov.1987	Nov.1988	Nov.1989	Nov.1990	Nov.1991	Nov.1992	Nov.1993	Nov.1994	Nov.1995	Nov.1996	Nov.1997
Property and business services	484.8	549.7	608.6	605.5	611.0	632.2	622.3	726.2	792.4	834.3	873.1
Property services	81.1	101.2	119.5	108.5	104.1	110.6	102.5	108.5	104.1	116.1	109.4
Business services	403.8	448.6	489.1	496.9	506.8	521.6	519.8	617.6	688.3	718.3	763.6

Source: ABS, *Labour force, Australia*, 1987–1997

13 Government administration and defence

The range of activities covered in this industry are those as defined as government administration and defence by the Australian Bureau of Statistics (ABS). These include the administrative functions of the three levels of government in Australia, together with the civilians working in defence, the administration of the various justice systems, and employees of foreign governments working in Australia. It is important to remember that this industry covers only about 25% of all public sector employment and does not include some of the major areas of public sector jobs such as public school teachers, staff in public hospitals or police.

Employment in the industry during 1996–1997 averaged around 369 000, but by November 1997 had fallen to about 351 000, or 4.1% of total Australian employment. The industry is dominated by the government administration sector which accounts for 89% of all jobs and most employment is in full-time jobs (86%).

Employment has fluctuated considerably over the last decade and has grown very little over the last ten years. In November 1987 it accounted for 4.8% of all jobs in Australia, so it has lost ground relative to other sectors.

Table 13.1: Employment ('000s) in government administration and defence by sub-division, by gender and type of employment, Australia, November 1997

Industry sub-division	**Males**	**Females**	**Full-time**	**Part-time**	**Total**
Government administration	*179.2*	*151.6*	*284.6*	*46.2*	*330.8*
Government administration	172.1	142.2	269.8	44.5	314.3
Justice	6.4	8.3	13.0	1.7*	14.7
Foreign government representation	0.7*	1.1*	1.8*	0.0*	1.8*
Defence	*12.9*	*7.8*	*19.2*	*1.6**	*20.8*
Total	**192.1**	**159.4**	**303.8**	**47.7**	**351.5**

Note: *Subject to sampling variability too high for most practical uses

Source: ABS, *Labour force, Australia*, cat.6203.0, November 1997

The industry has a middle-aged workforce, with relatively few employees under 25 and over 54. It is relatively less likely to employ persons born overseas than average, but has a more even gender balance than average.

On a geographical basis, employment is, not surprisingly, relatively highest in the Australian Capital Territory, with over 10% of all jobs in government administration located there. New South Wales, Victoria and South Australia have significantly fewer jobs in this industry than their overall share of employment.

Government is a significant employer of professionals and middle-level clerical, sales and service workers. In fact, one third of its workers are classified in this latter intermediate category.

About 30% of workers in government hold a degree or a higher qualification compared with about 17% of workers overall. A relatively small proportion of workers in government lack post-school qualifications. The occupational profile of the industry suggests that it is relatively less reliant on the vocational education and training (VET) sector for the provision of its skill needs than the average industry. However, this is not born out in practice.

At both the 1997 and 1995 technical and further education (TAFE) graduate destination surveys (GDS), compiled by the National Centre for Vocational Education Research (NCVER), 5.3% of TAFE graduates were working in government administration when surveyed, a higher share than the size of the industry would lead one to expect. Graduates gave a relatively good overall rating to the relevance of their course but were critical of the quality and availability of equipment on which to practice during their course. Like graduates in all industries, they were very critical of the poor availability of information on careers and jobs.

Government employers, when surveyed on employer satisfaction with VET for 1997 (ESS), also compiled by NCVER, were among the employers giving VET the highest rating by industry. Employers wanted to see improvements in the capacity of TAFE graduates to work unsupervised, their work ethic and in the relevance of course content.

Government is the industry that provides the most structured training of all industries. In the 1996 ABS survey of employer training expenditure, 88% of government administration employers provided structured training, compared with less than 18% of all employers.

VET statistics do not provide classifications that allow the identification of students enrolled in courses likely to lead to employment in government, nor do they allow the identification of how much government VET funding is directed towards such training.

An industry snapshot

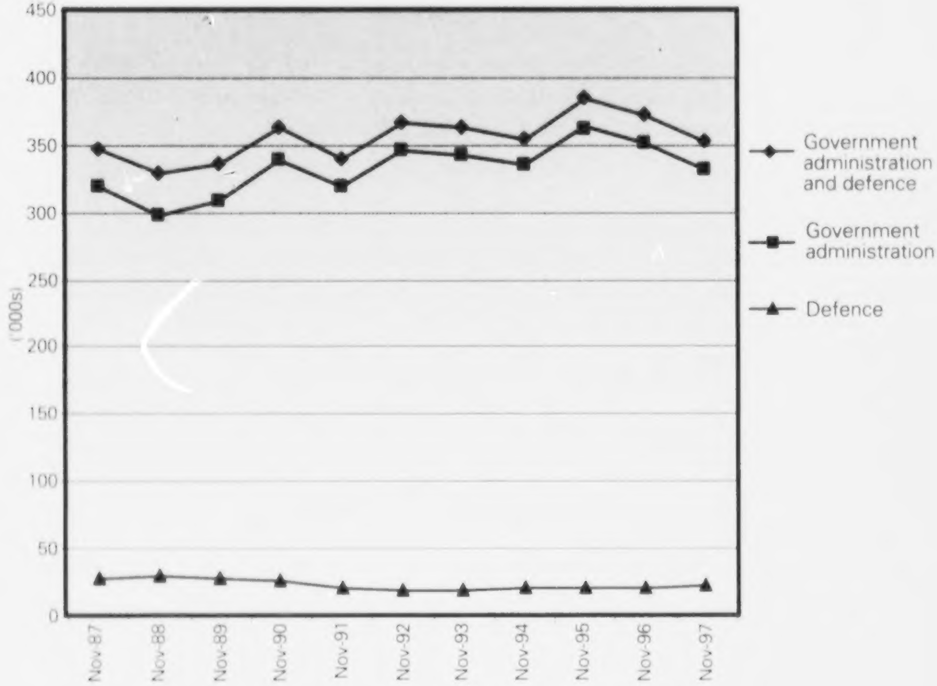
This industry covers employment in Commonwealth, State and local government administration, the administration of justice and defence (but only the civilians working in defence), and employment in foreign government representation. It does not cover all public sector employment, such as persons employed in public hospitals, teachers employed in government-run schools or other government-run activities such as police and corrective services. Employment in government administration, in fact, accounts for only about 25% of total public sector employment which, in 1997, was about 1.45 million persons.

Over the financial year 1996–1997, employment in government administration averaged about 369 000 persons or around 4.4% of the total employed labour force. Since then employment has declined to 351 500 in November 1997, only marginally above the figure of 345 200 which pertained in November 1987, which represented a slightly higher 4.8% of total employment. The employment level has fluctuated over the last 11 years, from a high point in February 1996 of 388 500 to a low of 318 400 in February 1989. Chart 13.1, below, shows the employment levels in government administration as at November since 1987.

Over recent years there have been moves by a number of governments to introduce a range of reforms in government employment. These include outsourcing functions previously performed by public servants, the introduction of limited duration contracts for some senior positions, the imposition of productivity dividends on departments, often resulting in the elimination of lower-level positions, and restructuring of departments as a cost-efficiency measure.

This industry accounted for over 3.6% of Australian gross product in 1995–1996.

Chart 13.1: Employment ('000s) in government administration, Australia, November 1987–November 1997 (ABS labour force survey)



Source: ABS, *Labour force, Australia*, cat.6203.0, 1987–1997

Employment characteristics of the industry

Government administration has a workforce that is relatively older than the workforce as a whole, although it is clustered in the 25–54 age group. Only 8.3% of the workers in government administration are aged under 25 compared with 18.4% of the total workforce, while government administration also employs a relatively smaller share of workers aged over 54.

Employment in government administration is not distributed in line with the total labour force, as would be expected, given the concentration of Commonwealth public service jobs in Canberra. The following tables show the distribution by State and Territory and the industry's percentage distribution in comparison with the distribution of total employment.

Table 13.2: Employment ('000s) in government administration by State/Territory, 1995

	NSW	Vic	Qld	SA	WA	Tas	NT	ACT
Males	72.1	41.2	44.2	11.8	21.9	8.1	4.3	21.7
Females	35.2	39.9	23.8	11.0	13.4	6.8	3.8	16.8
Total	**107.3**	**81.1**	**68.1**	**22.8**	**35.3**	**14.9**	**8.2**	**38.6**

Note: Some totals are not the sum of components due to rounding

Source: ABS, *Labour force, Australia*, cat.6204.0, 1995

While the Commonwealth Government's administration is centred in Canberra, the actual number of public service jobs there is less than in New South Wales, Victoria and Queensland, and not much more than in Western Australia.

Table 13.3 shows the relative distribution of jobs in the industry by State and Territory. It highlights the concentration of jobs in the Australian Capital Territory, relative to the overall distribution of total employment. It also shows that the Northern Territory, Tasmania and Queensland have a relatively high proportion of government administration jobs, while the other States, especially New South Wales, have relatively few jobs in the industry.

Table 13.3: Share of employment in government administration by State, by share of total jobs, 1995

State	Share of jobs in government industry %	% employed in all industries
NSW	28.5	33.5
Vic	21.6	25.0
Qld	18.1	18.3
SA	6.1	8.0
WA	9.4	10.1
Tas	4.0	2.4
NT	2.2	1.0
ACT	10.3	2.0
Total	**100.0**	**100.0**

Source: ABS, *Labour force, Australia*, cat 6204.0, 1995

Government administration is a relatively small employer of persons born overseas. In November 1997, 21.8% of those working in government administration were born overseas, as against 24% in the overall workforce.

Males represent 54.7% of workers in the industry, making government administration one of the more evenly balanced industries in terms of gender composition. Part-time employment makes up a relatively small 13.6% of jobs in this sector, compared with the 25.8% found across the whole labour force.

Occupational composition

Government administration has an occupational profile that is quite different from the workforce as a whole. The industry has a relatively high proportion of workers in the professional group and a very high proportion in the intermediate clerical, sales and service group. More detail on individual occupations is provided in the notes at the end of this chapter. Tables A13.3 and A13.4 in the notes show the level of educational attainment by major and minor occupational groups for persons employed in the industry at the 1996 Census.

Table 13.4: Occupational profile, government administration and total workforce, Australia, November 1997

Occupation group	Goverment administration %	Total workforce %
Managers and administrators	6.8	7.6
Professionals	23.3	17.4
Associate professionals	11.0	10.5
Tradespersons and related	5.0	13.2
Advanced clerical and service	4.9	4.5
Intermediate clerical/sales/service	33.4	17.1
Intermediate production/transport	5.1	9.2
Elementary clerical/sales/service	4.1	10.5
Labourers and related	6.4	10.1
Total	**100.0**	**100.0**

Source: ABS, *Labour force, Australia*, cat.6203.0, November 1997

The industry is a low-level employer of tradespersons, production and transport workers, elementary clerical, sales and service workers, and labourers. Consequently, as the following table shows, relatively few workers in the industry lack a post-school qualification.

Table 13.5: Qualifications of government administration workers, percentage distribution, Australia, May 1997

	Bachelor's degree or higher	Diploma/ associate diploma	Skilled vocational	Basic vocational	Without post-school qualification
Government administration	29.9	10.1	6.7	9.8	43.3
Total industry	**17.2**	**9.0**	**12.6**	**9.4**	**49.4**

Source: ABS, *Transition from education to work*, cat.6227.0, May 1997

Almost 30% of the workers in the industry hold a degree or higher, a proportion well above the 17.2% for the whole workforce. Overall, this suggests that government administration is less reliant on the VET sector than many other industries.

Occupational trends and skills shortages

The following detailed analysis of occupational changes in government administration looks at the period from 1987 to 1996. After this the ABS introduced a new edition of the Australian Standard Classification of Occupations (ASCO), making detailed comparisons over time more difficult. Between November 1996 and November 1997 employment in government administration fell by about 20 000, so the following occupational changes probably exaggerate, to some degree, growth, and understate occupational reductions.

Between 1987 and 1996 employment in government administration rose by about 33 100 or by 9.6%. The following table shows that the changes in employment by major occupational group over that time were not distributed evenly.

Table 13.6: Change in employment in government administration by major occupational group, Australia, 1987–1996

Occupational group	Employment 1987 ('000s)	Employment 1996 ('000s)	% change
Managers and administrators	21.8	37.2	70.6
Professionals	47.5	70.4	48.2
Para-professionals	33.6	31.9	–5.1
Tradespersons	22.8	19.3	–15.4
Clerks	135.2	139.2	3.0
Sales and personal service workers	8.4	17.7	110.7
Plant operators and drivers	25.9	22.4	–13.5
Labourers	48.9	39.0	–20.2
Total	**344.1**	**377.2**	**9.6**

Source: ABS, *Labour force, Australia*, cat.6203.0, 1987–1996

While overall employment grew moderately over the decade, there were marked differences by occupational group. Jobs lost were in the labourers, plant operators/drivers, tradespersons, and para-professional areas, while strongest growth occurred in the managers and administrators, professionals, and sales and personal service workers categories. Therefore, numerically, growth in government administration over the last decade has largely occurred either in those qualification areas that rely most strongly on the higher education sector. By contrast, the significant reductions have occurred in those areas more reliant on the VET sector.

Table 13.7: Major growth occupations, government administration, Australia, 1987–1996

Occupation	Employment 1987 ('000s)	Employment 1996 ('000s)	% change 1987–1996
Public policy managers	13.2	18.0	36
Accountants	6.2	9.0	45
Personnel specialists	2.0*	4.5	125
Computing professionals	5.0	9.4	88
Other professionals	2.1*	4.2	100
Gardeners	4.9	8.1	65
Data processing operators	9.3	16.5	77
Accounting clerks	34.5	49.5	43
Receptionists/info clerks	6.4	16.3	155

Note: *Subject to sampling variability too high for most practical uses. Includes occupations with employment growth of over 2000 over the decade

Source: ABS, *Labour force, Australia*, cat.6203.0, 1987–1996

Table 13.7 highlights the specific occupations within the broad groups described that have been the main areas of growth and decline in government administration employment. A more detailed table showing the movements for all occupations is provided in the notes at the end of this chapter as table A13.2.

The following table shows those occupations that have shown significant declines over the decade; that is, a drop of more than 2000.

Table 13.8: Occupations showing major decline, government administration, Australia, 1987–1996

Occupation	Employment 1987 ('000s)	Employment 1996 ('000s)	% change 1987–1996
Vehicle mechanics	3.8	1.7*	–55
Typists/typist clerks	6.5	3.5*	–46
Word processing operators	4.4	1.7*	–61
Other clerks	29.0	9.8	–66
Library/filing clerks	11.4	8.3	–27
Filing/copying clerks	5.6	3.3*	–41
Truck drivers	12.3	7.3	–41
Storemen/women	3.5*	1.2*	–66

Note: *Subject to sampling variability too high for most practical uses

Source: ABS, *Labour force, Australia*, cat.6203.0, 1987–1996

As a result of the relatively strong growth in some of the professional areas in government administration, there have been reported shortages of computing professionals and accountants. Additionally, public sector training experts have reported that management training, in general, is regarded as a high priority within the industry, with specific emphasis on project management, personnel management and business planning.

It is unlikely that there are significant areas of skill shortage elsewhere in government administration, given the reductions in employment occurring in many parts of the industry across Australia.

The National Public Administration Industry Training Advisory Body (ITAB) that covers public administration, as well as a number of public sector industries in the personal and other services industry, reported to the Australian National Training Authority (ANTA) in 1997 on a range of issues around public sector skill shortages. Their report said:

> *Across all the industry sectors, priority areas in which skill shortages exist have been identified as including contract management; project management; service delivery, resource management (including risk management); communications and information management; and strategic human resources management.*
>
> *The increase in outsourcing service provision to other spheres of government, or to external providers, has been responsible for many of these skill shortages, particularly in the areas of contract management and service delivery.*

Public sector skill shortages are evident in areas such as change management, program evaluation and benchmarking. In addition, the increase in home-based work and the gradual phasing out of traditionally defined jobs has led to new skill requirements both for employers and for the workforce.

In all States/Territories, critical shortages exist for workplace trainers and assessors (police) and in the areas of equal employment opportunity, and occupational health and safety (fire). High priority areas include literacy and numeracy, and fire safety (fire); and contract management (local government).

Hours of work and earnings

As noted earlier, government administration employment is somewhat more balanced between males and females than the workforce in general. While males comprise 56.6% of the Australian workforce, they make up 54.7% of employees in government administration.

Gender bias is still evident, however, in the composition of the part-time workforce. Whereas males make up about 26.5% of all part-time jobs in Australia, they only occupy 16.9% of part-time jobs in government administration. Despite the lead taken by some government employers in the introduction of equal employment opportunity (EEO) programs, there does not appear to be equality of opportunity in hours worked in this industry.

Table 13.9: Employment in government administration, by sex and hours worked, Australia, November 1997

	Full-time ('000s)		Part-time ('000s)		Total ('000s)	
	No.	%	No.	%	No.	%
Males	184.1	60.6	8.1	16.9	192.1	54.7
Females	119.7	39.4	39.7	83.1	159.4	45.3
Total	**303.8**	**100.0**	**47.8**	**100.0**	**351.5**	**100.0**

Source: ABS, *Labour force, Australia*, cat.6203.0, 1987

Average weekly hours worked in government administration in November 1997 were 33.7, a little lower than the overall average of 35.6 hours in all industries. Only 15.7% of workers in this industry worked, on average, more than 45 hours a week compared with almost 28% of all workers.

Earnings of non-managerial full-time workers in government administration are a little below overall average earnings. In May 1996, adult non-managerial full-time weekly earnings were about 2.3% (or about $16) below the average for all industries. The corresponding figure for males was $681.90, well below the all-industry average of $729.70, while the figure for females was $643.60, well *above* the all-industry average for females of $605.70.

These earnings comparisons suggest that occupational gender segregation might be considerably less in government administration than in other industries. Managerial earnings in government administration were well above the average for all industries. Male managerial earnings were $1278.40, the third highest of all industries and well above the all-industry average of $979.90; while female managerial earnings were, at $1119, the second highest by industry and well above the all-industry average of $729.20.

To some extent, these relatively high managerial earnings might reflect the relative absence of non-salary remuneration benefits, other than superannuation, for government executives in comparison with their private sector counterparts.

Employers surveyed in the 1997 ESS were asked whether they believed there were sufficient VET graduates to meet their needs. Only 18% said there were not, identifying the para-professional area as having the most shortages, followed by the clerical category. No further details on specific occupations were available.

- Employment in government administration accounts for about 4.1% of all jobs in Australia and about 25% of all public sector jobs.
- Employment has grown relatively little since 1987 and government administration's share of total employment has declined from 4.8% then to the level of 4.1% now.
- There are proportionately more jobs in the Australian Capital Territory and in the Northern Territory and Tasmania.
- In fact, 30% of the workforce in government administration holds a university degree or a higher qualification.
- Keyboard and many other clerical jobs have declined over the last decade while management and professional jobs have grown strongly.

Training in government administration

Government administration has a relatively high proportion of workers with higher education qualifications. It is not an industry that appears to rely heavily on the VET sector for its skill formation.

The industry training areas used by ANTA in the allocation of government resources for training do not include a government administration-specific category, so it is not possible to estimate how much government VET funding is specifically directed to the assumed needs of the industry.

The broad training category of business and clerical receives over 17% of the total government allocation of VET funds. It is likely that training in this area is relevant to much of the needs of government administration. In 1996, enrolments in the business administration and economics field of study accounted for 21% of all enrolments in VET across Australia. Using the discipline group code, just under 20% of module

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enrolments in 1996 were in the discipline group administration, business, economics, law.

Employer satisfaction with VET

In the ESS conducted in July 1997, 138 employers classified in the government administration industry were surveyed. The mean level of satisfaction among these employers with the provision of VET was among the highest of all industries.

On a 10-point scale the average satisfaction rating given to VET was 7, on a par with the two other high-rating industries, education and construction. Across the States and Territories, ratings ranged from a high of 7.5 in Queensland to a low of 6.2 in the Northern Territory.

Satisfaction with the TAFE part of the VET sector was a little lower at 6.8 on the 10-point scale, but was still the fourth highest rating on an industry basis.

When asked to identify those areas of VET provision that were the highest priority for improvement, employers in government administration identified the following:

- capacity to work unsupervised
- graduates' work ethic
- relevance of course content
- flexible delivery

Employers in government administration were much more likely than most employers to identify the capacity to work unsupervised as a high priority for VET graduates. They were also among those industries more likely to want to see course content become more relevant to their current needs.

VET graduates in government administration

The 1997 TAFE GDS was largely a repeat of a similar study undertaken in 1995.

Over 60 000 students were included in the survey, of which 43 119 were employed at the time of the survey. Of these, 2285 or 5.3% were employed in government administration, making this the seventh largest destination industry for TAFE graduates. Given both the overall small size of the industry, accounting for less than 4.5% of total employment, and the occupational profile that appears to favour university graduates, this is a surprisingly high proportion. Nevertheless, the result in the 1995 survey was the same.

Moreover, TAFE graduates working in government administration gave a relatively high score to the relevance of their course to their employment. While the proportion giving a 'highly relevant' rating was only average, when those giving a partially relevant rating are added the overall proportion, 79% places the industry seventh out of the 17 industries. This was also almost identical to the outcome in the 1995 survey.

Graduates were asked to give a rating to a range of aspects of their course on a 10-point scale, with '1' very poor through to '10', excellent. The following analysis groups responses giving a rating of 7 or better and compares the responses of graduates working in government administration with all employed graduates. Graduates working in government administration generally gave ratings close to but below average. The areas that appeared to be most unsatisfactory in the view of graduates were as shown in the following table.

Table 13.10: TAFE graduates working in government administration, rating of courses (% rating the item 7 or better)

Aspect of course	Rating by graduates in government administration	Rating by all employed graduates
Availability of equipment	56.0	60.0
Quality of equipment	57.7	62.2
Information on careers/jobs	34.0	41.1

Source: NCVER, 1997 TAFE graduate destination survey, unpublished data

Graduates were also asked to identify their main motivation in undertaking the course of study they had completed prior to the survey. The following table shows the major reasons, together with the proportion who said that they had either fully or partly achieved their objective.

Table 13.11: Reasons for undertaking course and achievement, graduates working in government administration

Reason	Number	% fully achieved	% partly achieved
Get a job	329	68.4	17.9
Try for different career	320	51.3	17.2
Get better job or promotion	521	47.0	21.1
Requirement of job	291	80.1	11.3
Get extra skills	509	78.2	17.1
Personal interest	246	83.7	11.0

Source: NCVER, 1997 TAFE graduate destination survey, unpublished data

Over 51% of the graduates employed in government administration were located in New South Wales, reflecting the over-sampling that appears to have occurred in that State. The other States, apart from South Australia, appear to be under-represented in the sample.

While the profile of qualifications obtained by graduates working in government administration quite closely matched the pattern for all graduates, they were somewhat more likely to have obtained an associate diploma or an Australian Qualification Framework (AQF) level IV certificate and less likely to have completed a trade certificate. Only a small number of graduates working in this industry, 346, were not employed before doing their course. When surveyed, 65% of this group were working full time in the industry. Of all graduates working in government administration, 82.6% were working full time, compared with only 66.6% of all employed graduates in the survey, reflecting the predominance of full-time employment in the industry.

For those graduates who were employed during the final semester of their course, 69.1% received some form of assistance from their employer, mainly as paid time off work or payment of fees. This was a high level of employer support and compared with around 51% of all graduates employed in their final semester receiving employer support.

Overall, 76.1% of the graduates working in government administration were employed when they graduated and all but 6.3% of the remainder took less than three months to secure their job. Only 66.1% of all graduates were employed when they graduated, suggesting that government employers might be more likely to encourage their employees to undertake TAFE study than other employers. The highest percentage of employers whose graduates were employed at graduation was in the utilities sector, also characterised by government or semi-government employment. For 61.1% of graduates working in the industry, this was not their first full-time job.

Graduates in only two other industries earned more than those working in government administration. For all graduates working in the industry, average weekly earnings were $581, behind only mining, and electricity, gas and water.

Male graduates' earnings in full-time employment were $669, well above the equivalent figure of $588 for female graduates. This difference, while sizeable, was not as great as in nine other industries. In all industries, male full-time earnings for TAFE graduates exceeded full-time female graduates' earnings. Whether this is explained by differences in course levels undertaken, age differences, by occupational gender segregation across all industries, other differences or by direct discrimination is not clear from the survey data.

Employer support for training

In 1996 the ABS undertook a repeat survey of an earlier 1993 survey of employer training expenditure.[1] This survey looked at the provision of structured training for the September quarter of the survey year, in each industry division in Australia.

While the all-industry average for the proportion of gross wages and salaries spent on structured training was 2.54%, in the government administration sector it was 3.2%. Expenditure on structured training was much more entrenched in the industry than in any other industry, with 81% of all employers in government administration providing structured training. Across all industries in the survey, only 17.8% of employers provided structured training.

Government employers provided an average of just over six hours of training per employee in the survey period, well above the all-industry average of 4.9 hours. Expenditure per employee in government was $264.20, again well above the all-industry average of $185.49.

Compared with the 1993 survey, the percentage of employers in government providing training dropped from 99% to 81% in 1996, in line with the overall reduction in training effort that followed the suspension of the Training Guarantee. Government employers, however, maintained the same number of hours of training per employee over the three-year period and, against the all-industry trend, lifted their training expenditure per employee but reduced their total actual expenditure. This suggests that there was a move towards cheaper training, spread across fewer employees.

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[1] ABS, *Employer training expenditure, Australia*, cat.6353.0, July to September 1996

In the more recent ABS employer training practices survey, February 1997, 99% of government administration employers were again shown to be providing structured training, while 88% were providing unstructured training.[2] The time period included in this survey differed from the training expenditure survey in that this more recent survey looked at training provision over the previous 12 months. This survey clearly established government administration as the pre-eminent industry in employer training provision. In this latter survey, just 35% of all employers had provided structured training over the previous 12 months compared with government administration's 99%.

- Government sector employers are generally very satisfied with VET provision.
- TAFE graduates working in the industry are reasonably satisfied with their course but were critical of equipment provided in colleges for practising skills.
- Government administration absorbs a relatively high proportion of TAFE graduates but there is little evidence of widespread skill shortages.

Some training issues in government administration

- How can government administration be used as a best practice example in terms of employer provision of structured training?
- Is the rapid shift towards more management and professional jobs in government administration more relevant for higher education than for VET, or does VET have a major role to play in meeting the need for provision of management skills in government administration?
- Why are there such relatively great differences in the earnings of male and female TAFE graduates working in government administration, when it is generally an industry that has been at the forefront of introducing EEO practices?
- What steps can TAFE systems take to ensure the provision of better quality equipment for students to practise on during their course?
- How can the VET sector improve the work ethic of graduates? Is this a valid role for the training system or does it indicate a need for better integration of on- and off-the-job training arrangements, with both employers and training systems contributing to the solution?

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[2] ABS, *Employer training practices*, cat.6356.0, February 1997

Notes

The following table is extracted from the ANTA resource allocations for 1997 document, available at their website. It shows the planned allocations of government-funded training between the ANTA-defined 'training areas' in terms of 'annual hours curriculum' (AHC).

Table A13.1: Key national shifts in activity between 1996 revised estimates and 1997 projected activity (AHC '000s)

Industry training area	1996 revised	1997 projected	Total increase	Total increase as % of 1996 revised	% of overall increase
Category A					
Arts, Entert, Sports and Rec	11 408	11 928	520	4.6	5.5
Automotive	8 221	8 576	355	4.3	3.7
Building and Construction	18 785	19 009	224	1.2	2.4
Comm Services, Health and Ed	20 910	22 382	1 471	7.0	15.5
Finance, Banking and Insurance	3 420	3 468	48	1.4	0.5
Food Processing	2 454	2 851	396	16.1	4.2
TCF and Furnishings	5 714	5 813	100	1.7	1.0
Communications	1 883	1 963	80	4.3	0.8
Engineering and Mining	15 654	16 607	952	6.1	10.0
Primary Industry	11 874	12 217	343	2.9	3.6
Process Manufacturing	397	479	82	20.6	0.9
Sales and Personal Service	6 527	6 752	225	3.4	2.4
Tourism and Hospitality	16 707	18 151	1 444	8.6	15.2
Transport and Storage	1 686	1 851	164	9.8	1.7
Utilities	11 898	12 145	247	2.1	2.6
Category B					
Business and Clerical	42 412	43 117	705	1.7	7.4
Computing	11 969	12 641	672	5.6	7.1
Science, Technical and Other	6 727	6 870	143	2.1	1.5
Category C					
Gen Education and Training	40 046	41 212	1 166	2.9	12.3
Unallocated	622	779	157	25.2	1.6
Total	**239 316**	**248 810**	**9 494**	**4.0**	**100.0**

Note: TCF – textiles, clothing and footwear

Source: Publications, *ANTA Resource Allocations 1997*, <www.anta.gov.au>

Table A13.2: Employed persons by occupation in the government administration and defence industry, 1987 and 1996

Occupation (ASCO 4-digit)	1987 ('000s)	1996 ('000s)	Change 1987 to 1996 ('000s)	Change 1987 to 1996 Average annual %
1313 Public policy managers	13.2	18.0	4.8	3.6
2209 Civil engineers	5.7	4.6	–1.1	–2.4
2605 Lawyers	2.8	4.3	1.5	5.0
2701 Accountants	6.2	9.0	2.8	4.4
2705 Personnel specialists	2.0	4.5	2.5	9.7
2707 Computing professionals	5.0	9.4	4.4	7.5
2907 Other social scientists	2.8	3.9	1.1	3.9
2999 Other professionals	2.1	4.2	2.1	8.2
3901 Welfare para-professionals	2.1	3.7	1.6	6.7
3905 Inspectors and regulatory officers	14.8	15.4	0.6	0.5
4601 Vehicle mechanics	3.8	1.7	–2.1	–8.8
4805 Gardeners	4.9	8.1	3.2	5.9
5101 Office secretaries and stenographers	11.9	12.8	0.9	0.8
5103 Typists and typist-clerks	6.5	3.5	–3.0	–6.8
5105 Word processing operators	4.4	1.7	–2.7	–10.3
5201 Data processing machine operators	9.3	16.5	7.2	6.8
5301 Accounting clerks	34.5	49.5	15.0	4.2
5401 Library and filing clerks	11.4	8.3	–3.1	–3.6
5499 Other filing sorting and copying clerks	5.6	3.3	–2.3	–5.9
5601 Receptionists and information clerks	6.4	16.3	9.9	11.3
5907 Legal and related clerks	4.5	3.7	–0.8	–2.2
5999 Other clerks	29.0	9.8	–19.2	–11.7
6601 Childcare refuge and related workers	3.5	4.9	1.4	3.9
7105 Truck drivers	12.3	7.3	–5.0	–5.8
7201 Excavating and earthmoving plant operators	6.9	6.7	–0.2	–0.3
8205 Nursery and garden labourers	5.6	6.4	0.8	1.5
8301 Cleaners	10.5	9.0	–1.5	–1.7
8409 Paving and surfacing labourers	8.5	6.8	–1.7	–2.5
8907 Storemen/women	3.5	1.2	–2.3	–11.5
8999 Other labourers and related workers	5.7	3.9	–1.8	–4.2
Other occupations	98.7	118.8	20.1	2.1
Total all occupations	**344.1**	**377.2**	**33.1**	**1.1**

Note: As estimates of less than 3500 are subject to high statistical error, they are listed against specific occupations only where there was a higher estimate in either 1987 or 1996. Where estimates of less than 3500 were recorded for both 1987 and 1996, they are included in the 'other occupations' category.

Source: ABS labour force survey, unpublished data

Table A13.3: Educational attainment of employed persons by industry, occupation (1-digit ASCO) and type of post-school qualification at 1996 Census

Government administration and defence	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
ASCO code and occupation									
1 Managers and Administrators	19 073	1 903	2 513	1 239	1 004	25 732	1 329	9 235	36 296
2 Professionals	42 219	5 042	5 562	2 856	2 079	57 758	3 023	14 812	75 593
3 Associate Professionals	9 205	2 216	6 670	6 871	2 833	27 795	2 964	19 200	49 959
4 Tradespersons and Related Workers	618	361	1 669	12 216	829	15 693	2 032	14 237	31 962
5 Advanced Clerical and Service Workers	1 193	383	503	210	1 365	3 654	1 389	6 104	11 147
6 Intermediate Clerical, Sales and Service Workers	13 041	2 743	4 432	4 349	6 029	30 594	6 705	59 323	96 622
7 Intermediate Production and Transport Workers	162	92	202	2 709	506	3 671	1 372	15 812	20 855
8 Elementary Clerical, Sales and Service Workers	2 484	955	808	1 403	1 123	6 773	1 496	12 760	21 029
9 Labourers and Related Workers	186	96	208	2 138	307	2 935	1 356	15 843	20 134
0 Inadequately described	1 671	215	390	809	341	3 426	703	4 507	8 636
Not stated	139	23	43	89	29	323	206	665	1 194
Not applicable	–	–	–	–	–	–	–	–	–
Total	**89 991**	**14 029**	**23 000**	**34 889**	**16 445**	**178 354**	**22 575**	**172 498**	**373 427**

Source: ABS, 1996 Census of population and housing

Table A13.4: Educational attainment of employed persons by industry, occupation (3-digit ASCO) and type of post-school qualification at 1996 Census

Government administration and defence	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
ASCO code and occupation									
100 Managers and Administrators nfd	920	122	153	87	101	1 383	102	747	2 232
110 Generalist Managers nfd	0	0	0	0	0	0	0	3	3
111 General Managers and Administrators	3 685	408	340	226	214	4 873	324	1 479	6 676
119 Miscellaneous Generalist Managers	84	29	37	96	18	264	28	121	413
120 Specialist Managers nfd	292	17	28	8	13	358	7	78	443
121 Resource Managers	2 816	295	540	135	201	3 987	160	1 734	5 881
122 Engineering, Distribution and Process Managers	1 748	176	319	181	113	2 537	105	884	3 526
123 Sales and Marketing Managers	299	29	35	24	27	414	23	116	553
129 Miscellaneous Specialist Managers	9 163	802	1 024	409	287	11 685	559	3 947	16 191
131 Farmers and Farm Managers	64	24	37	72	29	226	21	126	373
200 Professionals nfd	1 732	80	99	53	60	2 024	71	479	2 574
210 Science, Building and Engineering Professionals nfd	7	0	0	0	0	7	0	3	10
211 Natural and Physical Science Professionals	2 533	181	220	171	113	3 218	93	466	3 777
212 Building and Engineering Professionals	4 328	537	833	473	103	6 274	233	730	7 237
220 Business and Information Professionals nfd	66	8	8	4	4	90	4	34	128
221 Accountants, Auditors and Corporate Treasurers	3 485	308	692	39	81	4 605	205	1 135	5 945
222 Sales, Marketing and Advertising Professionals	794	74	72	61	64	1 065	63	455	1 583
223 Computing Professionals	3 679	226	702	239	208	5 054	225	1 714	6 993
229 Miscellaneous Business and Information Profs	7 380	652	1 166	752	654	10 604	612	4 966	16 182
230 Health Professionals nfd	0	3	0	0	0	3	0	0	3
231 Medical Practitioners	624	18	10	15	21	688	39	118	845
232 Nursing Professionals	907	844	51	11	95	1 908	191	103	2 202

Government administration and defence ASCO code and occupation	**Bachelor degree or higher**	**Undergraduate diploma**	**Associate diploma**	**Skilled vocational qualification**	**Basic vocational qualification**	**With qualifications**	**Inadequately described or not stated**	**Not applicable (No quals.)**	**Total**
238 Miscellaneous Health Professionals	854	84	14	9	7	968	38	37	1 043
240 Education Professionals nfd	18	0	0	0	0	18	0	3	21
241 School Teachers	2 439	652	184	13	4	3 292	99	119	3 510
242 University and Vocational Education Teachers	194	22	18	22	3	259	17	43	319
249 Miscellaneous Education Professionals	863	101	57	31	27	1 079	30	180	1 289
250 Social, Arts and Miscellaneous Professionals nfd	15	0	3	0	3	21	3	6	30
251 Social Welfare Professionals	3 004	273	316	146	157	3 896	186	973	5 055
252 Miscellaneous Social Professionals	6 027	180	191	82	138	6 618	272	822	7 712
253 Artists and Related Professionals	390	122	145	117	65	839	134	667	1 640
254 Miscellaneous Professionals	2 882	678	781	617	273	5 231	510	1 760	7 501
300 Associate Professionals nfd	80	19	71	69	32	271	41	201	513
310 Science/Engineering and Related Assoc Profs nfd	103	64	496	308	87	1 058	74	258	1 390
311 Medical and Science Technical Officers	384	56	260	145	130	975	54	339	1 368
312 Building/Engineering Associate Professionals	670	407	2 700	3 423	457	7 657	605	1 829	10 091
320 Business and Administrative Assoc Profs nfd	4	0	6	0	3	13	5	26	44
321 Finance Associate Professionals	640	82	165	37	80	1 004	77	895	1 976
329 Miscellaneous Business/Admin Assoc Profs	5 187	712	1 265	869	1 093	9 126	1 032	8 572	18 730
330 Managing Supervisors (Sales and Service) nfd	3	0	0	0	3	6	0	3	9
331 Shop Managers	23	0	12	21	6	62	5	60	127
332 Hospitality and Accommodation Managers	42	30	47	428	32	579	66	320	965
339 Miscellaneous Mngr. Supervisors (Sales and Service)	843	166	193	212	150	1 564	141	1 390	3 095
340 Health and Welfare Assoc Professionals nfd	0	0	0	0	0	0	0	0	0
341 Enrolled Nurses	71	53	27	10	104	265	33	69	367
342 Welfare Associate Professionals	341	84	124	60	70	679	62	359	1 100

Government administration and defence ASCO code and occupation	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
349 Miscellaneous Health and Welfare Associate Profs	24	28	62	59	52	225	63	164	452
390 Other Associate Professionals nfd	0	0	0	0	0	0	3	10	13
391 Police Officers	89	16	32	72	16	225	62	367	654
399 Miscellaneous Associate Professionals	703	497	1 210	1 156	522	4 088	641	4 339	9 068
400 Tradespersons and Related Workers nfd	11	12	81	450	26	580	52	290	922
410 Mechanical/Fabrication Engineering Trades nfd	0	0	0	7	0	7	0	0	7
411 Mechanical Engineering Tradespersons	84	48	443	3 148	87	3 810	331	965	5 106
412 Fabrication Engineering Tradespersons	8	3	7	332	6	356	34	80	470
421 Automotive Tradespersons	17	12	59	1 730	29	1 847	137	401	2 385
431 Electrical and Electronics Trades	80	37	219	1 093	57	1 486	111	484	2 081
440 Construction Tradespersons nfd	0	0	0	6	0	6	0	4	10
441 Structural Construction Trades	3	7	24	917	16	967	89	336	1 392
442 Final Finishes Construction Trades	4	3	3	284	12	306	36	197	539
443 Plumbers	6	3	11	538	9	567	37	205	809
451 Food Tradespersons	4	5	15	552	48	624	73	523	1 220
460 Skilled Agricultural/Horticultural Workers nfd	0	0	0	0	0	0	0	0	0
461 Skilled Agricultural Workers	3	3	8	16	4	34	7	74	115
462 Horticultural Tradespersons	77	45	243	1 160	230	1 755	249	2 307	4 311
490 Other Tradespersons and Related Workers nfd	0	0	0	3	0	3	0	4	7
491 Printing Tradespersons	3	4	4	77	10	98	10	92	200
492 Wood Tradespersons	3	3	0	17	3	26	3	11	40
493 Hairdressers	0	0	0	14	0	14	3	0	17
494 Textile, Clothing and Related Trades	0	0	3	12	8	23	4	28	55
498 Miscellaneous Tradespersons and Related Wkrs	317	180	549	1 862	286	3 194	857	8 233	12 284

Government administration and defence	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
ASCO code and occupation									
500 Advanced Clerical and Service Workers nfd	12	3	0	3	0	18	0	15	33
511 Secretaries and Personal Assistants	475	247	241	88	1 090	2 141	1 072	3 853	7 066
590 Other Advanced Clerical and Service Wkrs nfd	0	0	0	0	0	0	0	3	3
591 Advanced Numerical Clerks	199	48	82	35	81	445	102	876	1 423
599 Miscellaneous Advanced Clerical and Service Wkrs	503	86	178	83	193	1 043	214	1 357	2 614
600 Intermediate Clerical, Sales and Service Wkrs nfd	8	4	3	6	7	28	6	57	91
610 Intermediate Clerical Workers nfd	232	50	63	41	96	482	83	959	1 524
611 General Clerks	5 085	1 020	1 607	1 207	2 409	11 328	2 657	25 266	39 251
612 Keyboard Operators	571	155	276	176	623	1 801	725	4 396	6 922
613 Receptionists	158	68	88	53	272	639	248	1 634	2 521
614 Intermediate Numerical Clerks	2 509	332	762	263	583	4 449	628	6 977	12 054
615 Material Record and Despatch Clerks	441	103	196	395	251	1 386	285	3 094	4 765
619 Miscellaneous Intermediate Clerical Workers	3 412	691	1 070	1 398	1 197	7 768	1 201	11 659	20 628
621 Intermediate Sales and Related Workers	24	6	9	21	6	66	11	99	176
630 Intermediate Service Workers nfd	0	0	0	12	4	16	9	42	67
631 Carers and Aides	392	236	247	341	394	1 610	549	3 427	5 586
632 Hospitality Workers	13	5	11	43	17	89	33	288	410
639 Miscellaneous Intermediate Service Workers	194	73	101	393	170	931	270	1 425	2 626
700 Intermediate Production and Transport Wkrs nfd	4	3	0	63	15	85	22	344	451
710 Intermediate Plant Operators nfd	0	4	3	145	26	178	99	808	1 085
711 Mobile Plant Operators	11	12	36	556	87	702	274	3 895	4 871
712 Intermediate Stationary Plant Operators	24	6	17	335	49	431	109	715	1 255
720 Intermediate Machine Operators nfd	14	6	11	167	32	230	117	1 006	1 353

Government administration and defence	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
ASCO code and occupation									
721 Intermediate Textile/Clothing/Related Mach Ops	0	0	0	5	3	8	6	40	54
729 Miscellaneous Intermediate Machine Operators	3	0	3	12	5	23	6	72	101
731 Road and Rail Transport Drivers	51	35	51	1 039	198	1 374	529	6 755	8 658
790 Other Intermediate Prod'n and T'port Wkrs nfd	0	0	0	0	0	0	0	0	0
791 Intermediate Mining and Construction Workers	0	0	3	14	14	31	8	37	76
799 Misc Intermediate Prod'n and Transport Wkrs	49	24	77	373	78	601	202	2 140	2 943
800 Elementary Clerical, Sales and Service Wkrs nfd	6	4	0	4	5	19	5	37	61
811 Elementary Clerks	2 197	815	669	867	916	5 464	1 004	7 976	14 444
820 Elementary Sales Workers nfd	0	0	0	0	0	0	0	3	3
821 Sales Assistants	48	14	33	22	29	146	52	507	705
829 Miscellaneous Elementary Sales Workers	76	31	34	61	53	255	73	802	1 130
831 Elementary Service Workers	157	91	72	449	120	889	362	3 436	4 687
900 Labourers and Related Workers nfd	22	13	26	375	55	491	282	3 145	3 918
911 Cleaners	42	25	23	283	55	428	365	3 854	4 647
920 Factory Labourers nfd	0	0	0	0	0	0	0	0	0
921 Process Workers	10	0	0	43	4	57	9	164	230
922 Product Packagers	0	0	0	3	0	3	3	11	17
990 Other Labourers and Related Workers nfd	0	3	0	17	0	20	8	157	185
991 Mining, Construction and Related Labourers	29	16	52	575	66	738	293	3 737	4 768
992 Agricultural and Horticultural Labourers	36	13	55	323	69	496	154	2 273	2 923
993 Elementary Food Preparation and Related Wkrs	13	9	8	61	22	113	60	552	725
999 Miscellaneous Labourers and Related Workers	39	17	43	458	35	592	183	1 950	2 725
099 Inadequately described	1 671	215	390	809	341	3 426	703	4 507	8 636
Not stated	139	23	43	89	29	323	206	665	1 194
Not applicable	–	–	–	–	–	–	–	–	–
Total	**89 988**	**14 030**	**22 997**	**34 886**	**16 450**	**178 351**	**22 578**	**172 498**	**373 427**

Note: nfd – not further defined

Source: ABS, 1996 Census of population and housing

14 Education

THERE ARE NEARLY 590 000 persons employed in the education industry in Australia, making it the sixth largest industry of employment.[1] Its main distinguishing features are its domination by women, who make up two-thirds of all employees, its relatively high level of part-time jobs, making up one-third of all its jobs, and the domination of professional-level jobs in its occupational structure. Professional jobs also account for two-thirds of all jobs in the industry, the highest number and proportion of any industry.

Over the last decade employment in the industry has grown a little more than overall employment levels, driven by a range of factors. In the compulsory schooling years the demand for teachers is a product of the population in this age group, together with changes in average class sizes. Substantial increases in retention rates to the final school year over the last 15 years have driven demand for teachers in the post-compulsory age group.

Table 14.1: Employment ('000s) in education by sub-sector, by gender and type of employment, Australia, November 1997

Industry sub-sector	Males	Females	Full-time	Part-time	Total
Pre-school education	0.3*	16.6	6.8	10.1	17.0
School education	105.1	259.8	246.0	118.9	364.9
Post-school education	69.6	84.2	112.6	41.2	153.7
Other education	19.1	32.0	25.2	26.0	51.2
Total	**194.1**	**392.7**	**390.6**	**196.2**	**586.8**

Note: *Subject to sampling variability too high for most practical uses

Source: Australian Bureau of Statistics (ABS), *Labour force, Australia*, cat.6203.0, November 1997

In the vocational education and training (VET) sector, which incorporates technical and further education (TAFE) and private and community-based providers of VET, demand has been driven both by the changing nature of the Australian labour market and, since 1992, by government increases in the supply of funding for VET places.

In the university sector, enrolments have doubled since the early 1980s. This, again, has largely been driven by government policies aimed at increasing the number of university places through increased funding levels, and has occurred in tandem with the rise in final year retention rates, increasing the potential supply of university students. An important feature of increased enrolments in universities over recent years has been the increase in those undertaking higher degrees or other post-initial courses.

Employment in education is more or less distributed according to population, with New South Wales standing out as having a lower ratio of persons employed in education to its population than the other States and Territories. More than half the jobs growth over the last decade in the industry has been of part-time jobs and about 82% of the increase has been in female employment. The industry has an ageing workforce, with more than 40% of its workforce aged over 45, compared with about 30% of the workforce across all industries.

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[1] ABS, *Labour force, Australia*, cat.6203.0, November 1997

With the highest level of professionally qualified workers and the lowest level of persons without post-school qualifications, the industry is also a moderately significant employer of those with VET qualifications. In the TAFE graduate destination survey for 1997 (GDS), compiled by the National Centre for Vocational Education Research (NCVER), about 5% of all employed graduates who responded to the survey were working in the education industry. Their overall level of satisfaction with their TAFE course was good, although they appeared to be concerned over the availability and quality of equipment provided in TAFE colleges related to their course, and over how well employers accepted their TAFE qualification.

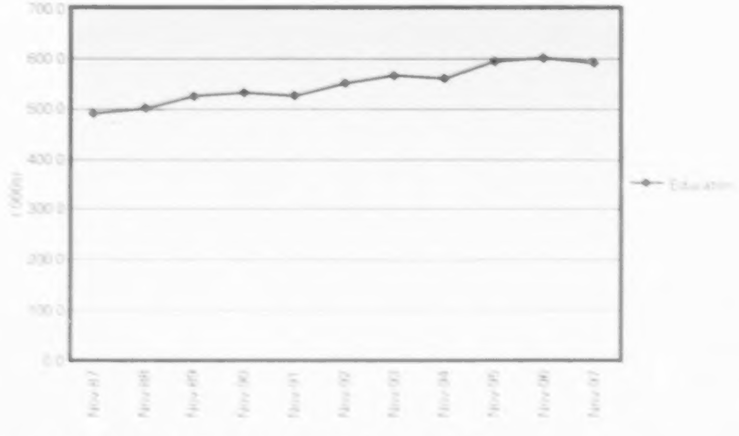
For most TAFE graduates working in education, this was not their first full-time job and the largest group had undertaken their TAFE course to gain extra skills for their job. Only about half of these graduates were working full time.

Employers in education surveyed in the employer satisfaction with VET for 1997 (ESS), also compiled by NCVER, were generally among the employers most satisfied with VET provision. They did, however, identify three areas in particular as being the highest priority for improvement in VET delivery. These were 'relevance of course content', 'graduates' work ethic' and 'flexibility in course delivery'. Interestingly, education industry employers were behind only agriculture in nominating flexible delivery as one of the highest priorities for service delivery improvement.

Employers in education were among those most supportive of training and were among the minority of industries that increased their spending on training between 1993 and 1996.

The following chart shows how employment has grown in the industry since November 1987. The plateau that has existed since 1995 is likely to continue in the short to medium term as governments seek to gain further efficiencies from this industry, which is highly reliant on government funding. Education exports are not likely to show the same strength over the short term as they have in recent years.

Chart 14.1: Employment ('000s) in the education industry, Australia, November 1987 to November 1997 (ABS labour force survey)



Source: ABS, *Labour force, Australia*, cat.6203.0, November 1997

An industry snapshot

Employment in this industry covers those working in all levels and types of education. It includes pre-schools, primary and secondary schools, universities, TAFE colleges and private providers of VET, and adult and community education providers. With 586 800 workers, it is the sixth largest industry in Australia in terms of numbers of persons employed, slightly smaller than the construction industry, and the third largest employer of women.

In 1995–1996 its gross domestic product (GDP) of over $19.5 billion represented 4.6% of total Australian GDP. In 1994–1995 there were about 16 700 separate 'businesses' in the industry according to the Australian Bureau of Statistics (ABS). The majority of these 'businesses', about 9600, were schools. Nearly 74% of these schools were government schools, while just under 18% were Catholic schools.[2] There were 43 higher education institutions in Australia in 1996.

A little over 200 000 of the nearly 600 000 workers in the industry are school teachers employed in primary or secondary education. About 64% of these school teachers are females. According to the ABS labour force survey (cat.6203.0), in 1996 there were 13 800 pre-primary teachers, 110 800 primary school teachers, 116 800 secondary school teachers, 7200 special education teachers, 36 700 university teachers, 31 400 TAFE teachers and a further 57 500 'extra-systemic teachers and instructors'. Many of those in this last group would be teachers in private training institutions or trainers employed in workplaces. Detailed 1996 Census tables showing employment by occupation are provided in the notes at the end of this chapter.

It should be noted that the number of TAFE teachers recorded in the labour force survey or in the Census would understate considerably the actual number, as many TAFE teachers are part-timers who have their main occupation in another industry. As yet there is no collection of data among TAFE and other VET providers, collectively known as the VET sector, that provides specific information on the number of teachers/trainers employed. At the 1996 Census there were 24 241 persons who gave their occupation as vocational education teacher.

As at March 1997 universities employed 77 316 persons of whom about 43% (in full-time equivalent terms [FTE]) were academic staff.[3] Males accounted for about 51% of all university staff (or 53% in FTE terms) and about 60% of university staff were in tenured positions. Staffing declined in universities between 1996 and 1997 by 1.8%, with full-time staff declining by 3.6% and part-time staff increasing by 6.9%. The 1996 Census shows 29 979 persons giving their occupation as university lecturer or tutor.

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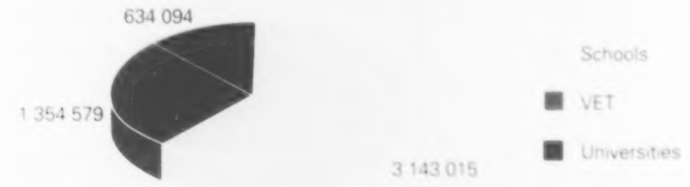
[2] ABS, *Schools, Australia*, cat.4221.0

[3] Department of Employment, Education, Training and Youth Affairs (DEETYA), *Selected higher education staff statistics, 1997*

Student numbers are distributed between the main education sectors as follows:

Chart 14.2: Students in the education sector, Australia, 1996



Source: ABS, *Schools Australia*, cat.4221.0, August 1996; NCVER, *Australian vocational education and training statistics 1996: In detail*; DEETYA, *Selected higher education student statistics, 1996*

The numbers of students in all sectors has been growing over recent years as a result of several factors. Population growth, both natural and through immigration, is the main factor driving increases in compulsory attendance at primary and secondary levels, while various government policies have encouraged retention of students at school beyond the compulsory age.

In Australia, retention rates to the final year of high school have, in round terms, doubled to about 70% since the early 1980s. It is this latter factor that has been largely responsible for lifting the demand for secondary education during the 1980s and 1990s. It seems unlikely that the retention rate in high schools will continue to rise at this rate—in fact, there is recent evidence that it has levelled out. It is therefore likely that demand for secondary teachers *in general* will grow more slowly over the next decade than it has over the last 10–20 years. This is not to say that there will necessarily be fewer jobs for teachers, since turnover rates of teachers have generally increased during times of strong economic growth. Moreover, there are shortages of some types of teachers that are examined later in this chapter.

University student numbers have risen very strongly since the early 1980s. Between 1983 and 1996 university student numbers rose by 82%, from 348 577 to 634 094. A change in data definitions for the 1997 data produced an artificially high growth rate in student numbers for that year to 658 827. Interestingly, while student numbers in most fields of study have risen by around this average growth, numbers in education have actually declined over that period. Strongest percentage growth has occurred in health, business administration, and economics.

Over the last decade the number of students in the VET sector has also risen quite strongly. NCVER data show that clients in VET have risen from 937 175 in 1987 to 1 354 579 in 1996, a rise of 44.5%.[4] At the time of writing, 1997 data had not been finalised. This figure overstates the actual increase because prior to 1995 only TAFE students were included in this data series.

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[4] NCVER, *Australian vocational education and training statistics 1996: In detail*

Increasingly, Australian governments are adopting policies in education that place more competitive pressures on both the VET sector and on universities to increase their efficiency. These policies are likely to see employment growth in the industry constrained over the next few years. An important strategy for educational institutions in addressing this demand for increased efficiency has been the growth in education exports. This means both the entry into Australia of foreign students to pay for education delivered in Australia and the increasing practice of Australian educational institutions, public and private, to establish outposts in foreign countries, especially in Asia. In 1997 education exports represented close to 12% of all Australian exports of services. Services made up about 23% of total exports of goods and services.

Funding arrangements in education have changed over recent years, especially in higher education and VET. In higher education, fees and charges and repayment of charges under the Higher Education Contribution Scheme (HECS) now contribute more than 24% of universities' revenue, while Commonwealth grants contribute 57%. In 1983 Commonwealth grants accounted for 90% of universities' revenue and fees and charges contributed about 3%.[5]

In the VET sector the Commonwealth has assumed joint responsibility for funding with the States and Territories since the creation of the Australian National Training Authority (ANTA) in 1993. This allowed expansion of the VET system through the allocation of Commonwealth 'growth funds', while States and Territories maintained their level of spending. With the cessation of growth funding by the Commonwealth in 1997, further growth in the system will be the product of either increased State/Territory funding or increased efficiencies.

Most States and Territories are pursuing efficiencies through the implementation of user choice principles, which aim to place more buying power in the hands of students and their employers. Since most students in VET are not employed in their desired industry or occupation, the application of the principle across all VET is problematic.

Employment levels in the education industry grew by more than 20% between 1987 and 1997, slightly more than the overall rate of employment growth of 18.6%. Employment growth in the main occupations over the last decade is examined in a later section of this chapter.

Employment characteristics of the industry

As shown below in table 14.2, most jobs in the industry are located in New South Wales and Victoria, in line generally with the distribution of population. In every State and Territory females outnumber males in this industry.

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[5] Industry Commission, Submission to the Review of Higher Education, Financing and Policy

Table 14.2: Employment ('000s) in education by State/Territory 1995

	NSW	Vic	Qld	SA	WA	Tas	NT	ACT
Males	60.9	50.4	34.9	17.4	19.8	6.3	1.8*	4.9
Females	125.8	97.9	77.3	32.6	41.3	10.8	5.4	8.6
Total	**186.7**	**148.4**	**112.2**	**50.1**	**61.1**	**17.2**	**7.2**	**13.5**

Note: *Subject to sampling variability too high for most practical uses
Some totals are not the sum of components due to rounding

Source: ABS, *Labour force, Australia*, cat.6204.0, 1995

Table 14.3 below shows that employment in the industry is distributed in line with population, although New South Wales alone has a noticeably lower proportion of its workforce in education than its share of population would indicate. In part, this probably reflects a slightly lower share of the population under 20 than elsewhere in Australia.

Table 14.3: Share of employment in education by State, by share of total jobs, Australia, 1995

State	**Education %**	**% employed in all industries**
NSW	31.3	33.5
Vic	24.9	25.0
Qld	18.8	18.3
SA	8.4	8.0
WA	10.2	10.1
Tas	2.9	2.4
NT	1.2	1.0
ACT	2.3	2.0
Total	**100.0**	**100.0**

Source: ABS, *Labour force, Australia*, cat.6204.0, 1995

The workforce in education is noticeably older than the workforce in general. More than 40% of those employed in education are aged 45 or more, compared with fewer than 32% in this age group in the whole workforce. Almost 73% of the workforce in education is aged 35 or more compared with only 56.5% of the total workforce. This implies that attrition from the industry through age-based retirement will be a significant issue in the industry over the next decade and more.

The following table shows the percentage distribution of workers in the industry compared with the whole workforce.

Table 14.4: Age distribution of education workers and all employed, Australia, November 1997

	Age group						**Total**
	15–19	20–24	25–34	35–44	45–54	55+	
Education %	1.3	5.6	20.2	32.8	30.0	10.1	100.0
All-industry %	6.9	11.5	25.2	25.6	21.1	9.8	100.0

Source: ABS, *Labour force, Australia*, cat.6203.0, November 1997

Education is one of five industry divisions in Australia in which women make up a majority of employees. In November 1997 women accounted for nearly 67% of all employees in this industry, making education the second most feminised industry in Australia, behind health and community services. In 1987 women made up about 63.8% of all education industry workers. Education is the third largest employing industry for females, but is much less significant in numbers than health and community services, and retailing.

Of the 100 000 additional workers in the industry since 1987, about 82 000 were women. Just over half of the additional 100 000 jobs created were part-time positions.

Part-time jobs now represent about 33% of all jobs in the industry, a higher proportion than applies across the whole workforce of just under 26%. The industry employs a relatively low proportion of persons born overseas. They make up only 21.7% of the education workforce, compared with 24% of the total workforce.

- All areas of education have seen strong growth in the number of students over the last decade.
- Employment in education has grown only marginally faster than employment overall.
- More than half the jobs growth over the last decade in the industry has been of part-time jobs and about 82% of the increase has been in female employment.
- Education is the second most feminised industry in Australia, with about 67% of the industry's workers females.
- Education has an old workforce and could face age-based attrition problems over the next decade.

Occupational composition

The occupational profile of the education industry is quite distinct and quite different from the profile of the overall workforce, as is shown in the following table. About two-thirds of the workforce in education is comprised of professionals, largely teachers of course. The only other occupational group of any significance in the industry is the intermediate clerical/sales/service group, which makes up 15% of the industry's jobs. Females fill about 90% of these jobs.

Table 14.5: Occupational profile, education industry and total workforce, Australia, November 1997

Occupation group	Education %	Total workforce %
Managers and administrators	3.8	7.6
Professionals	66.4	17.4
Associate professionals	3.7	10.5
Tradespersons and related	2.3	13.2
Advanced clerical and service	2.9	4.5
Intermediate clerical/sales/service	15.0	17.1
Intermediate production/transport	0.4	9.2
Elementary clerical/sales/service	2.2	10.5
Labourers and related	3.3	10.1
Total	**100.0**	**100.0**

Source: ABS, *Labour force, Australia*, cat.6203.0, November 1997

Education is the major industry of employment of the professionals occupational group across the whole workforce, although it is only the second largest area of professional employment for males, behind the property and business services industry. Females make up 63.5% of the professionals employed in the industry.

Table 14.6: Qualifications of education industry workers, percentage distribution, Australia, May 1997

	Bachelor's degree or higher	Diploma/ associate diploma	Skilled vocational	Basic vocational	Without post-school qualification
Education	53.8	16.0	3.0	5.6	21.3
Total industry	**17.2**	**9.0**	**12.6**	**9.4**	**49.4**

Source: ABS, *Transition from education to work*, cat.6227.0, May 1997

As would be expected, this industry employs more persons with higher degrees, post-graduate diplomas and bachelors degrees than any other industry. It has the lowest proportion of workers without post-school qualifications and a very low proportion of workers with skilled or basic vocational qualifications. So, despite being the industry mainly responsible for the formation of vocational skills, it has not been a significant employer of persons with these qualifications. Detailed tables are provided in the notes at the end of this chapter, showing the educational attainment of workers in this industry by 4-digit occupation.

Occupational trends and skills shortages

This analysis of changes in the occupational composition of the industry uses the first edition of the Australian Standard Classification of Occupations (ASCO) to allow for a long perspective. Hence the comparison is made for the decade between 1987 and 1996. After 1996, occupational data are based on the newer second edition ASCO classification.

Table 14.7: Employment changes in education, major occupational groups, Australia, 1987–1996

Occupational group	Number in 1987 '000s	Number in 1996 '000s	% change over decade
Managers and administrators	13.5	21.9	62.2
Professionals	329.4	381.4	15.8
Para-professionals	13.0	16.2	24.6
Tradespersons	10.9	12.0	10.1
Clerks	64.5	95.2	47.6
Sales and personal service	10.4	22.1	112.5
Plant operators, drivers	1.7*	2.2*	29.4*
Labourers	35.1	25.5	-24.4
Total	**478.6**	**576.5**	**20.5**

Note: *Subject to sampling variability too high for most practical uses

Source: ABS, *Labour force, Australia,* cat.6203.0, 1987–1996

At the broad occupational group level, the most growth over the period occurred in the professional area. However, in percentage terms, the clerical and sales/service areas grew faster.

At the detailed occupational level, there were some significant changes in employment over the period 1987 to 1996.

Over the period the main employment changes did not occur in the minor occupational category of school teacher, with the total in that category growing by only about 1%. Much stronger growth, 46%, occurred in the other teachers and instructors category, growing by 30 800. Other minor occupational groups in education to show significant growth were numerical clerks (up 10 000), personal service workers (up 9700) and data processing operators (up 7200).

Table 14.8 shows the occupations (that is, at the detailed occupational level) that showed both the most growth and the greatest decline over the decade.

Despite the relatively low proportion of workers in the education industry with vocational qualifications, 26% of the employers in the industry, when surveyed in the 1997 ESS, said there were insufficient VET graduates to meet their needs. Clerical workers were most commonly identified as being in shortage, followed by sales and personal service workers and professionals.

As noted earlier in this chapter, there is the possibility that shortages of teachers will emerge more widely over the next decade. While there are currently, in some States, shortages in some subject specialisations in some geographical regions, the age and sex structure of the occupation indicates that high rates of age-related attrition will exacerbate this situation in the medium term. As shown earlier, about 40% of those working in this industry are aged 45 or more and nearly three-quarters of the industry's workforce are aged over 35.

Table 14.8: Changes in employment, selected occupations, education industry, Australia, 1987–1996

Occupation	Change 1987–1996	Change 1987–1996
	('000s)	%
Education managers	6.1	73
Primary school teachers	4.7	4
Secondary school teachers	–1.7	–1
University teachers	12.2	52
TAFE teachers	5.8	24
Extra-systemic teachers and instructors	12.8	69
Personnel specialists	3.2	800
Office secretaries etc.	5.0	42
Data processing operators	7.4	336
Accounting clerks	10.1	198
Receptionists, info. clerks	6.1	254
Other clerks	–4.3	–61
Childcare and related workers	9.0	123
Cleaners	–9.7	–43

Note: See full table in the notes at the end of this chapter

Source: ABS, *Labour force, Australia*, cat.6203.0, 1987–1996

Hours of work and earnings

Education is one of only two industries in Australia in which females outnumber males in full-time employment, the other being health and community services. Table 14.9 below shows the break up of the industry by sex and full-time/part-time workers as at November 1997.

Table 14.9: Education industry employment, by sex and hours worked, Australia, November 1997

	Full-time ('000s)		Part-time ('000s)		Total ('000s)	
	No.	%	No.	%	No.	%
Males	162.5	41.6	31.6	16.1	194.1	33.1
Females	228.1	58.4	164.6	83.9	392.7	66.9
Total	**390.6**	**100.0**	**196.2**	**100.0**	**586.8**	**100.0**

Source: ABS, *Labour force Australia*, cat.6203.0, 1997

About one third (33.4%) of employment in the industry is part time, somewhat above the overall figure for all employment in Australia, which is 25.8%.

Average weekly earnings in education in May 1996 were, for full-time non-managerial workers, $739.40, more than 8% above the all-industry average. This made workers in this category the fifth highest of the 17 industry divisions. Considering the high levels of qualifications in the industry, this is a relatively low outcome in terms of payment for skills.

As with all industries, females earned less than males in equivalent wage and salary categories. Full-time non-managerial females in education earned about 89% of the equivalent male category ($703 versus $787), while the comparable figures for workers classified as managerial were females, $1018.70 and males, $1108.30. Overall managerial earnings, at $1072.10, were again the fifth highest of the 17 industry divisions.

- Two-thirds of education workers are professionals, the highest level of any industry.
- Education has the lowest level of workers without post-school qualifications.
- The relative age of the education workforce suggests that skill shortages in some market segments might emerge over the next decade.

Training in education

Only about 10% of persons working in the education industry possess vocational qualifications as their highest academic attainment. Nearly a quarter of these are working in teaching jobs, many of which would now increasingly require at least a bachelors degree, teaching diploma or higher. Therefore, the education industry is much less reliant on the VET sector for its skills formation than other industries, although it is a significant source of jobs for TAFE graduates. Resources allocated by ANTA for government-funded VET are defined under a number of industry training areas. Education is grouped with community services and health in this allocation, the combined area receiving, in 1996, an estimated 9.3% of total government VET funding.

This level of funding meant that about 32 hours per employee were allocated in the combined industries (education, together with health and community services) compared with an average of 27 hours across all training areas. In reality, it is unlikely that much of this funding would have gone to training in specifically educational areas. While some of those employed in the industry would have undertaken VET courses for carers and aides, it is rather more likely that many of the non-teaching staff in this industry would have undertaken a business/clerical VET course. About 7600 workers in clerical jobs do hold VET qualifications, although they represent only about half the clerical workers in the industry.

It goes without saying that most government support for this industry's skill needs is directed through the university sector.

Data collected from VET institutions for the national VET statistical collection do show the number of students enrolled in both the education field of study and the discipline group of the same name. The field of study data do not necessarily indicate students likely to enter the education industry—many would be undertaking basic education courses as a precursor to further study or entry to the labour market. The discipline group data show that about 1.2% of all module enrolments were in the education discipline group.

Employer satisfaction with VET

In the 1997 ESS, there were 138 employers surveyed who were defined as being in the education industry.

Mean satisfaction ratings with VET across all industries ranged between 5.7 and 7 out of a possible 10. The education industry recorded a mean satisfaction level of 7, placing it among the top three industries in terms of overall satisfaction with VET. Overall satisfaction with TAFE was marginally lower at 6.9, but still placed it among the top three industries.

There was a wide range of responses across the States in the level of satisfaction, with a high of 8 in the Northern Territory down to a low of 6.2 in Tasmania.

In the ESS, employers were also asked to identify the areas in which the VET sector needed to improve its service. Employers in education identified three areas in particular as being the highest priority for improvement. These were 'relevance of course content', 'graduates' work ethic' and 'flexibility in course delivery'. Interestingly, education industry employers were behind only agriculture in nominating flexible delivery as one of the highest priorities for service delivery improvement.

VET graduates in education

The 1997 TAFE GDS received responses from 2144 graduates employed in the education industry at the time of the survey. This represented 5% of all employed graduates, about the same as the 5.1% employed in the industry at the 1995 survey. A high proportion of TAFE graduates, 9.3%, entered the education industry in Queensland, while New South Wales accounted for the largest number of TAFE graduates working in education.

Graduates employed in the education industry gave a middle-range level of satisfaction with their TAFE course, with 48.6% rating their course as 'highly relevant' to their employment.

Graduates were asked to rate, on a 10-point scale, a number of aspects of their course. The following analysis compares the proportion of graduates working in education giving a rating of 7 or better on the 10-point scale compared with all graduates.

While TAFE graduates working in education generally gave close to average or above-average ratings, there are four results from the analysis below that warrant further comment. Responding graduates clearly felt that their qualification was less well regarded by employers than did all graduates in the survey. As well, they were less satisfied than most with both the quality and availability of equipment provided in TAFE colleges related to their course.

Table 14.10: Rating of course by graduates employed in education and all graduates

Issue	Education	All employed graduates
Instructors' knowledge	84.0	85.2
Course content reflects industry practice	75.3	72.2
Presentation of material	75.1	73.2
Quality of equipment	59.1	62.2
Sufficient equipment	58.0	60.0
Info on choosing course	60.3	58.6
Info on careers/jobs	37.1	41.1
Usefulness for job prospects	66.4	71.8
Qualification well regarded by employers	60.3	64.9
Balance instruction and practice	70.8	69.8
Assessment method understood	81.6	78.5
Time/venue convenience	78.8	75.3
Overall course quality	84.1	84.1

Source: NCVER, 1997 TAFE graduate destination survey, unpublished data

As with all graduates, those working in education were clearly unhappy with the provision of information on careers and jobs. In fact, their level of satisfaction was noticeably lower than the very low average rating on this item. As noted in other chapters in this book, there appears to be no clearer finding from this survey than that there is an urgent requirement to review the provision of career information to TAFE students. Probably, based on the depth of dissatisfaction among TAFE graduates, there is a need for such a review to encompass all students.

Employment outcomes

When the 1997 TAFE GDS was conducted, 2144 TAFE graduates who replied to the survey were working in the education industry. This outcome places education in the top half of industries, in terms of significance for employment of TAFE graduates. It is likely that many of these graduates would be working in pre-schools supporting pre-school teachers.

Graduates entering the industry in 1997 most commonly held:

- a certificate (other) – 563
- an associate diploma – 308
- an Australian Qualification Framework (AQF) certificate IV – 287
- AQF certificate III – 282
- AQF certificate II – 278

Graduates working in education who had been employed during their final semester were less likely than most graduates to have received some form of financial support from their employer. About 41% of graduates employed in education received financial support during their final semester compared with about 51% of all employed graduates, mostly in the form of paid fees or paid time off work.

Just under half, 48.4%, of those working in education were employed full time and for most of these it was not their first full-time job. The data show that 46.8% were working part time, the discrepancy arising because not all respondents provided details of their working hours.

Graduates were asked to identify the main reasons for undertaking their course of study and to what extent their goals had been achieved. The following table summarises the responses to these questions.

Table 14.11: TAFE graduates working in education—main reasons for doing course and achievement of aim

Reason and number	Fully achieved (%)	Partly achieved (%)
Get a job (417)	65.7	19.9
Try for different career (337)	52.5	16.3
Get better job/promotion (266)	47.7	20.3
Requirement of job (177)	80.2	9.6
Get extra skills (540)	78.0	15.4
Personal interest (316)	85.4	10.8

Source: NCVER, 1997 TAFE graduate destination survey, unpublished data

Average full-time weekly earnings of graduates in the industry were $637, among the higher income group for all graduates. Male graduates' full-time weekly earnings were $698, while females' were $596. This gap between male and female graduate earnings, with female graduates earning around 85% of male graduates' earnings, was about in the middle range of income gaps. Interestingly, this was a wider gap in earnings than between all full-time males and females in the education industry, where females earned over 89% of the average male rate.

Employer support for training

Employers in the education industry, perhaps predictably, have an above-average commitment to training which against the trend, has risen over the last four years.

In 1996 the ABS conducted the employer training expenditure survey (cat.6353.0), a survey of structured training provided by employers in the September quarter of that year. A similar survey was undertaken three years previously. Employers in education in the 1996 survey spent $222 per employee on structured training, well above the all-industry average of $185. In the 1993 survey their expenditure was $180 per employee, representing an increase over the three years of more than 23%. This went against the broad trend of reducing training expenditure that occurred over this period, with all industries reducing their spending by about 3%.

The 1996 level of training expenditure represented just over 3% of gross wages and salaries in the education industry, compared with the across-the-board level of 2.54%. The industry provided 5.87 hours of training per employee, well above the all-industry figure of 4.91 hours. As with the increase in training expenditure per employee over the three years, this increase in training hours also represented a substantial increase in training commitment of 29%.

The proportion of gross wages and salaries allocated to training in education also rose over the three years against the overall trend to reduce spending as a proportion of total wages and salaries.

The 1997 ABS employer training practices survey (cat.6356.0) looked at employer provision of both structured and unstructured training over the previous 12 months. It indicated that employers generally, including those in education, had increased their training expenditure over the previous year, with 30% of education employers compared with 18% of all employers having increased their provision of structured training.

- Education sector employers appear to have an above-average commitment to training their own workforce.
- Employers and graduates working in the industry are generally well satisfied with VET provision. However, graduates are concerned over the availability and quality of equipment provided in colleges, the acceptance by employers of their TAFE qualifications and the provision of information on careers and jobs.

Some training issues in education

- The main training issues in this industry appear to be the possibility of the emergence of some skills shortages in the teaching workforce over the next decade, as a result of age-related retirement and the relatively old age of the current workforce. This issue is, however, one to be addressed through the university sector, rather than through VET.
- Does the VET sector have a larger role to play in the provision of skills to teachers, especially in the light of the growth in vocational education programs in schools?
- What steps can be taken by the VET sector to improve the quality and availability of equipment provided for students undertaking courses leading to employment in the industry?
- How can the provision of information on jobs and careers be improved to ensure students make the best informed decisions on choice of course?
- What role should VET play in addressing the skills shortages identified by some employers of VET skills in the clerical and sales/service occupations?
- There does not appear to be a national industry training advisory body (ITAB) that specifically represents the interests of employers in the education industry.

Notes

The following table is extracted from the ANTA resource allocations for 1997 document, available at their website. It shows the planned allocations of government-funded training between the ANTA-defined 'training areas' in terms of 'annual hours curriculum' (AHC).

Table A14.1: Key national shifts in activity between 1996 revised estimates and 1997 projected activity (AHC '000s)

Industry training area	1996 revised	1997 projected	Total increase	Total increase as % of 1996 revised	% of overall increase
Category A					
Arts, Entert, Sports and Rec	11 408	11 928	520	4.6	5.5
Automotive	8 221	8 576	355	4.3	3.7
Building and Construction	18 785	19 009	224	1.2	2.4
Comm Services, Health and Ed	20 910	22 382	1 471	7.0	15.5
Finance, Banking and Insurance	3 420	3 468	48	1.4	0.5
Food Processing	2 454	2 851	396	16.1	4.2
TCF and Furnishings	5 714	5 813	100	1.7	1.0
Communications	1 883	1 963	80	4.3	0.8
Engineering and Mining	15 654	16 607	952	6.1	10.0
Primary Industry	11 874	12 217	343	2.9	3.6
Process Manufacturing	397	479	82	20.6	0.9
Sales and Personal Service	6 527	6 752	225	3.4	2.4
Tourism and Hospitality	16 707	18 151	1 444	8.6	15.2
Transport and Storage	1 686	1 851	164	9.8	1.7
Utilities	11 898	12 145	247	2.1	2.6
Category B					
Business and Clerical	42 412	43 117	705	1.7	7.4
Computing	11 969	12 641	672	5.6	7.1
Science, Technical and Other	6 727	6 870	143	2.1	1.5
Category C					
Gen Education and Training	40 046	41 212	1 166	2.9	12.3
Unallocated	622	779	157	25.2	1.6
Total	**239 316**	**248 810**	**9 494**	**4.0**	**100.0**

Note: TCF – textiles, clothing and footwear

Source: Publications, *ANTA Resource Allocations 1997*, <www.anta.gov.au>

Table A14.2: Employed persons by occupation in the education industry, 1987 and 1996

Occupation (ASCO 4-digit)	1987	1996	Change 1987 to 1996	
				Average annual
	('000s)	('000s)	('000s)	%
1317 Education managers	8.3	14.4	6.1	6.5
2401 Pre-primary school teachers	10.5	10.3	–0.2	–0.2
2403 Primary school teachers	105.2	109.9	4.7	0.5
2405 Secondary school teachers	116.6	114.9	–1.7	–0.2
2407 Special education teachers	6.2	6.7	0.5	0.9
2501 University and CAE teachers	23.6	35.8	12.2	4.9
2503 TAFE teachers	24.2	30.0	5.8	2.5
2505 Extra–systemic teachers and instructors	18.6	31.4	12.8	6.2
2705 Personnel specialists	0.4	3.6	3.2	28.5
2707 Computing professionals	1.5	4.3	2.8	12.8
2905 Education researchers and related professionals	3.9	5.7	1.8	4.4
2911 Librarians	4.4	4.4	0.0	0.0
3103 Science technical officers and technicians	3.1	4.8	1.7	5.1
3999 Other para-professionals (including ex-service)	4.9	3.6	–1.3	–3.5
5101 Office secretaries and stenographers	11.8	16.8	5.0	4.1
5103 Typists and typist-clerks	6.1	3.9	–2.2	–5.0
5201 Data processing machine operators	2.2	9.6	7.4	18.3
5301 Accounting clerks	5.1	15.2	10.1	13.3
5401 Library and filing clerks	7.0	9.7	2.7	3.8
5601 Receptionists and information clerks	2.4	8.5	6.1	15.5
5903 Teachers' aides	18.7	20.6	1.9	1.1
5999 Other clerks	7.0	2.7	–4.3	–10.3
6601 Childcare refuge and related workers	7.3	16.3	9.0	9.6
8301 Cleaners	22.4	12.7	–9.7	–6.3
Other occupations	57.2	80.7	23.5	4.0
Total all occupations	**478.6**	**576.5**	**97.9**	**2.1**

Note: As estimates of less than 3500 are subject to high statistical error, they are listed against specific occupations only where there was a higher estimate in either 1987 or 1996. Where estimates of less than 3500 were recorded for both 1987 and 1996, they are included in the 'other occupations' category.

Source: ABS labour force survey, unpublished data

Table A14.3: Higher education students and growth rates, by State, 1983 to 1996

Year	NSW	Growth %	VIC	Growth %	QLD	Growth %
1985	117 747	5.38	107 494	2.35	53 514	4.31
1986	124 949	6.12	112 281	4.45	56 993	6.50
1987	127 204	1.80	113 314	0.92	58 815	3.20
1988	132 979	4.54	122 005	7.67	62 792	6.76
1989	139 366	4.80	127 807	4.76	66 187	5.41
1990	150 606	8.07	138 142	8.09	77 325	16.83
1991	160 651	6.67	150 276	8.78	85 021	9.95
1992	170 405	6.07	156 055	3.85	90 190	6.08
1993	174 327	2.30	161 992	3.80	93 955	4.17
1994	177 996	2.10	163 854	1.15	97 037	3.28
1995	185 995	4.49	167 528	2.24	100 031	3.09
1996	192 606	3.55	175 050	4.49	108 032	8.00

Year	WA	Growth %	SA	Growth %	TAS	Growth %
1985	35 712	3.32	32 360	1.56	8 371	–0.13
1986	37 545	5.13	33 713	4.18	8 892	6.22
1987	37 425	–0.32	33 041	–1.99	8 242	–7.31
1988	41 712	11.45	35 355	7.00	8 739	6.03
1989	44 479	6.63	36 208	2.41	9 146	4.66
1990	48 474	8.98	39 922	10.26	10 393	13.63
1991	53 571	10.51	43 291	8.44	11 502	10.67
1992	54 733	2.17	43 835	1.26	11 678	1.53
1993	55 460	1.33	44 445	1.39	12 074	3.39
1994	56 401	1.70	45 019	1.29	12 094	0.17
1995	58 294	3.36	46 231	2.69	12 394	2.48
1996	61 354	5.25	47 919	3.65	12 445	0.41

Year	NT	Growth %	ACT	Growth %	Australia	Growth %
1985	1 191	17.34	13 627	1.05	370 016	3.54
1986	1 485	24.69	14 110	3.54	389 968	5.39
1987	1 511	1.75	14 182	0.51	393 734	0.97
1988	2 053	35.87	15 215	7.28	420 850	6.89
1989	2 610	27.13	15 273	0.38	441 076	4.81
1990	3 062	17.32	17 151	12.30	485 075	9.98
1991	3 761	22.83	19 224	12.09	534 538	10.20
1992	4 168	10.82	20 320	5.70	559 365	4.64
1993	4 179	0.26	20 723	1.98	575 617	2.91
1994	4 354	4.19	20 202	–2.51	585 396	1.70
1995	4 824	10.79	20 012	–0.94	604 177	3.21
1996	4 976	3.15	20 005	–0.03	631 025	4.44

Source: DEETYA 1996, *Higher education students, time series tables*

The following tables A14.4, A14.5 and A14.6, derived from DEETYA's higher education database, are extracted from *Short-term forecasting of the demand for university places.*

Table A14.4: Age profile of higher education students, Australia, 1980 to 1995

Year	Persons –19	Persons 20–24	Persons 26–29	Persons 30+	Age not stated	Total
1980	96 065	99 705	49 481	77 713	6 559	329 523
1981	93 147	102 705	51 386	85 854	3 610	336 702
1982	95 041	103 430	51 390	90 495	1 034	341 390
1983	96 282	106 129	51 174	93 647	1 345	348 577
1984	98 892	107 508	51 862	98 175	936	357 373
1985	103 840	109 333	52 668	103 448	727	370 016
1986	111 363	113 037	54 312	110 547	709	389 968
1987	121 840	113 317	52 339	105 755	483	393 734
1988	134 053	119 795	54 095	112 582	325	420 850
1989	148 423	126 664	53 951	112 038	–	441 076
1990	163 843	141 175	57 600	124 457	–	487 075
1991	171 437	160 271	63 027	139 803	–	534 538
1992	164 613	177 419	66 709	150 624	–	559 365
1993	159 454	189 498	69 068	157 597	–	575 617
1994	161 715	191 225	69 290	161 166	–	583 396
1995	164 680	195 637	75 519	168 341	–	604 177

Note: The classification 'age not stated' only applies before 1989. It is not clear as to how this figure could be distributed among the other classifications

Source: DEETYA 1996, *Higher education students, time series tables*

Table A14.5: Overseas higher education students by field of study and sex

Year	Agriculture	Architecture	Arts	Business	Education	Engineering	Health	Law	Science	Veterinary science	Non-award	Total
Male												
1988	397	704	811	3 187	290	2 982	649	185	1 950	78	207	11 440
1989	498	756	1 193	4 970	427	3 422	814	237	2 762	84	133	15 296
1990	486	706	1 323	6 036	434	3 167	970	296	3 060	81	286	16 845
1991	560	641	1 607	7 354	493	3 426	1 090	317	3 590	81	279	19 438
1992	566	704	1 894	8 387	542	3 742	1 275	356	3 901	91	399	21 857
1993	520	751	2 044	8 890	575	3 984	1 367	341	4 483	90	476	23 521
1994	507	828	2 313	9 834	546	4 210	1 438	353	4 895	87	544	25 556
1995	490	953	2 411	11 090	733	4 666	1 542	380	4 994	75	616	27 950
Female												
1988	109	226	1 073	2 500	341	369	659	125	1 124	27	214	6 767
1989	150	274	1 769	3 762	630	442	1 176	180	1 607	32	129	10 151
1990	159	254	2 075	4 676	764	450	1 515	227	1 709	30	289	12 148
1991	196	268	2 725	5 904	923	475	1 821	252	2 038	41	327	14 970
1992	210	282	3 122	7 048	1 030	549	2 377	292	2 294	44	385	17 633
1993	242	299	3 261	7 850	1 072	598	2 494	305	2 375	47	507	19 050
1994	225	379	3 647	8 760	1 015	622	2 697	351	2 593	33	563	20 885
1995	225	510	3 976	10 412	1 262	702	3 129	364	2 697	48	669	23 994

Source: DEETYA 1996, *Higher education students, time series tables*

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Table A14.6: Higher education students by field of study

Year	Agriculture	Architecture	Arts	Business	Education	Engineering	Health	Law	Science	Veterinary science	Non-award	Total
1983	6 127	7 784	86 199	62 821	74 314	27 628	19 626	10 391	48 520	1 466	3 701	348 577
1984	6 399	7 905	89 441	65 330	73 551	28 398	20 412	10 157	50 998	1 450	3 332	357 373
1985	6 633	7 988	92 814	68 412	75 050	28 418	23 269	9 945	52 766	1 435	3 286	370 016
1986	6 911	8 133	98 024	73 170	77 157	29 144	26 975	9 969	55 946	1 456	3 083	389 968
1987a	7 061	8 974	95 714	72 688	72 112	30 098	37 328	11 345	51 422	1 458	5 534	393 734
1988	7 603	9 323	101 702	80 700	73 016	31 153	42 894	11 124	56 021	1 494	6 220	421 250
1989	7 656	9 678	101 495	91 592	72 578	33 178	48 196	11 693	60 705	1 526	2 779	441 076
1990	8 559	10 724	109 551	104 825	74 772	36 019	54 498	14 135	67 330	1 534	3 128	485 075
1991	9 876	11 243	121 285	112 666	79 598	40 207	61 875	16 313	75 961	1 612	3 834	534 470
1992	10 491	11 894	125 040	117 104	78 091	43 599	67 181	18 001	80 690	1 682	5 592	559 365
1993	10 988	12 373	127 812	120 526	76 568	45 715	70 763	19 508	83 678	1 718	5 968	575 617
1994	11 426	12 998	132 935	122 315	72 277	47 147	70 885	21 236	86 136	1 690	6 351	585 396
1995	11 850	13 550	139 367	129 177	70 635	48 169	72 137	23 490	88 172	1 674	5 956	604 177
1996	13 059	14 704	146 308	143 583	70 525	48 733	73 262	24 995	91 986	1 658	6 281	635 094
1997b	13 137	15 187	164 862	161 048	73 510	50 013	75 161	30 525	103 701	1 639	5 798	694 581

Note: a In 1987 the field of study classification changed. The main effects were the transfer of certain courses for science to health and from business to law, thus reducing science and business enrolments and increasing health and law enrolments

b Data shown for 1997 were compiled in a different way to data for prior years. The 1997 data take into account the coding of combined courses to two fields of study. As a consequence, the total for some broad fields of study show larger increases than would be the case if only one field were to be counted. Counting both fields for combined courses means that the data in the total column for 1997 is less than the sum of the data aggregated across all columns

Source: DEETYA 1996, *Higher education students, time series tables*

Table A14.7: Educational attainment of employed persons by industry, occupation (3-digit ASCO) and type of post-school qualification at 1996 Census

Education	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total	Percentage with quals
ASCO code and occupation										
100 Managers and Administrators nfd	708	99	79	63	49	998	75	362	1 435	69.5
110 Generalist Managers nfd	3	0	0	0	0	3	0	0	3	100.0
111 General Managers and Administrators	745	74	51	47	31	948	50	181	1 179	80.4
119 Miscellaneous Generalist Managers	20	13	14	76	6	129	24	80	233	55.4
120 Specialist Managers nfd	165	21	18	10	9	223	11	48	282	79.1
121 Resource Managers	1 483	201	214	132	132	2 162	123	767	3 052	70.8
122 Engineering, Distribution and Process Managers	453	36	63	61	35	648	22	178	848	76.4
123 Sales and Marketing Managers	317	35	23	21	24	420	22	140	582	72.2
129 Miscellaneous Specialist Managers	17 243	2 422	1 212	257	161	21 295	420	1 181	22 896	93.0
131 Farmers and Farm Managers	114	58	40	54	33	299	24	196	519	57.6
200 Professionals nfd	4 962	226	121	48	48	5 405	122	562	6 089	88.8
210 Science, Building and Engineering Professionals nfd	3	0	3	0	0	6	0	0	6	100.0
211 Natural and Physical Science Professionals	3 127	57	60	47	34	3 325	44	203	3 572	93.1
212 Building and Engineering Professionals	659	45	46	45	6	801	27	61	889	90.1
220 Business and Information Professionals nfd	35	3	5	0	3	46	4	18	68	67.6
221 Accountants, Auditors and Corporate Treasurers	954	138	270	16	99	1 477	186	968	2 631	56.1
222 Sales, Marketing and Advertising Professionals	495	66	62	25	60	708	60	350	1 118	63.3
223 Computing Professionals	2 107	112	254	68	100	2 641	103	627	3 371	78.3
229 Miscellaneous Business and Information Profs	5 696	612	651	515	437	7 911	469	2 227	10 607	74.6
230 Health Professionals nfd	3	3	0	0	0	6	0	0	6	100.0

	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total	Percentage with quals
231 Medical Practitioners	375	6	3	0	3	387	6	5	398	97.2
232 Nursing Professionals	621	479	16	3	37	1 156	91	45	1 292	89.5
238 Miscellaneous Health Professionals	970	110	9	8	9	1 106	35	26	1 167	94.8
240 Education Professionals nfd	1 297	187	47	15	3	1 549	28	51	1 628	95.1
241 School Teachers	159 780	41 677	8 619	537	352	210 965	4 414	6 258	221 637	95.2
242 University and Vocational Education Teachers	41 734	5 711	1 724	1 713	690	51 572	1 366	2 723	55 661	92.7
249 Miscellaneous Education Professionals	12 817	2 440	1 187	562	611	17 617	1 651	6 157	25 425	69.3
250 Social, Arts and Miscellaneous Professionals nfd	9	0	0	0	0	9	0	0	9	100.0
251 Social Welfare Professionals	4 569	335	163	80	84	5 231	174	574	5 979	87.5
252 Miscellaneous Social Professionals	746	22	24	9	25	826	53	153	1 032	80.0
253 Artists and Related Professionals	1 070	246	112	151	70	1 649	139	623	2 411	68.4
254 Miscellaneous Professionals	337	80	52	47	32	548	51	220	819	66.9
300 Associate Professionals nfd	52	4	16	10	26	108	17	98	223	48.4
310 Science/Engineering and Related Assoc Profs nfd	301	61	228	259	61	910	40	132	1 082	84.1
311 Medical and Science Technical Officers	1 110	221	621	326	475	2 753	265	1 356	4 374	62.9
312 Building/Engineering Associate Professionals	199	82	289	451	86	1 107	67	186	1 360	81.4
320 Business and Administrative Assoc Profs nfd	12	0	0	3	4	19	0	17	36	52.8
321 Finance Associate Professionals	184	14	60	14	42	314	36	286	636	49.4
329 Miscellaneous Business/Admin Assoc Profs	3 495	508	747	487	812	6 049	680	4 535	11 264	53.7
330 Managing Supervisors (Sales and Service) nfd	3	0	0	0	0	3	3	0	6	50.0
331 Shop Managers	52	31	17	25	31	156	45	245	446	35.0

	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total	Percentage with quals
332 Hospitality and Accommodation Managers	129	109	47	360	106	751	195	1 749	2 695	27.9
339 Miscellaneous Mngr. Supervisors (Sales and Service)	308	70	73	86	57	594	71	378	1 043	57.0
340 Health and Welfare Assoc Professionals nfd	0	0	0	0	0	0	0	0	0	0.0
341 Enrolled Nurses	15	34	52	11	58	170	11	22	203	83.7
342 Welfare Associate Professionals	190	40	75	48	46	399	42	149	590	67.6
349 Miscellaneous Health and Welfare Associate Profs	11	14	16	9	17	67	7	14	88	76.1
390 Other Associate Professionals nfd	0	0	0	0	0	0	0	0	0	0.0
391 Police Officers	17	0	5	5	9	36	9	25	70	51.4
399 Miscellaneous Associate Professionals	540	200	904	79	199	1 922	207	1 386	3 515	54.7
400 Tradespersons and Related Workers nfd	27	12	20	139	13	211	22	93	326	64.7
410 Mechanical/Fabrication Engineering Trades nfd	0	0	0	0	0	0	0	0	0	0.0
411 Mechanical Engineering Tradespersons	23	12	27	329	16	407	21	222	650	62.6
412 Fabrication Engineering Tradespersons	6	0	4	51	10	71	12	121	204	34.8
421 Automotive Tradespersons	8	9	5	91	0	113	13	211	337	33.5
431 Electrical and Electronics Trades	143	39	143	513	46	884	75	801	1 760	50.2
440 Construction Tradespersons nfd	0	0	0	0	0	0	3	15	18	0.0
441 Structural Construction Trades	7	5	14	600	21	647	84	606	1 337	48.4
442 Final Finishes Construction Trades	0	4	3	124	4	135	27	182	344	39.2
443 Plumbers	6	3	5	179	7	200	17	148	365	54.8
451 Food Tradespersons	18	20	20	130	27	215	72	639	926	[illegible]

	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total	Percentage with quals
460 Skilled Agricultural/Horticultural Workers nfd	0	0	0	0	0	0	0	0	0	0.0
461 Skilled Agricultural Workers	6	5	7	3	4	25	4	15	44	56.8
462 Horticultural Tradespersons	111	74	138	1 120	163	1 606	339	3 361	5 306	30.3
490 Other Tradespersons and Related Workers nfd	0	0	0	0	3	3	0	0	3	100.0
491 Printing Tradespersons	17	11	8	131	12	179	32	190	401	44.6
492 Wood Tradespersons	3	0	0	62	0	65	9	72	146	44.5
493 Hairdressers	3	3	0	27	0	33	3	7	43	76.7
494 Textile, Clothing and Related Trades	4	4	5	6	4	23	9	50	82	28.0
498 Miscellaneous Tradespersons and Related Wkrs	79	29	55	110	47	320	39	226	585	54.7
500 Advanced Clerical and Service Workers nfd	7	0	0	0	0	7	0	4	11	63.6
511 Secretaries and Personal Assistants	681	413	431	124	1 573	3 222	1 570	6 335	11 127	29.0
590 Other Advanced Clerical and Service Wkrs nfd	0	0	0	0	0	0	0	0	0	0.0
591 Advanced Numerical Clerks	243	125	175	61	274	878	348	1 990	3 216	27.3
599 Miscellaneous Advanced Clerical and Service Wkrs	64	17	18	16	37	152	26	166	344	44.2
600 Intermediate Clerical, Sales and Service Wkrs nfd	33	13	14	17	35	112	51	264	427	26.2
610 Intermediate Clerical Workers nfd	6	3	3	0	3	15	3	23	41	36.6
611 General Clerks	1 229	331	516	272	1 087	3 435	1 052	7 232	11 719	29.3
612 Keyboard Operators	367	134	195	82	569	1 347	571	2 893	4 811	28.0
613 Receptionists	166	97	122	68	362	815	299	1 879	2 993	27.2
614 Intermediate Numerical Clerks	264	82	198	38	173	755	166	1 375	2 296	32.9
615 Material Record and Despatch Clerks	76	30	54	149	62	371	76	582	1 029	36.1
619 Miscellaneous Intermediate Clerical Workers	973	237	424	142	384	2 160	452	3 204	5 816	37.1

	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total	Percentage with quals
621 Intermediate Sales and Related Workers	56	40	23	45	63	227	96	829	1 152	19.7
630 Intermediate Service Workers nfd	4	0	0	6	0	10	3	17	30	33.3
631 Carers and Aides	2 633	2 366	1 858	2 027	2 244	11 128	3 417	25 266	39 811	28.0
632 Hospitality Workers	44	11	10	20	27	112	45	590	747	15.0
639 Miscellaneous Intermediate Service Workers	359	136	120	472	126	1 213	308	1 795	3 316	36.6
700 Intermediate Production and Transport Wkrs nfd	0	0	0	6	0	6	0	15	21	28.6
710 Intermediate Plant Operators nfd	0	0	0	9	3	12	0	6	18	66.7
711 Mobile Plant Operators	0	0	0	8	5	13	6	62	81	16.0
712 Intermediate Stationary Plant Operators	3	0	3	22	5	33	5	29	67	49.3
720 Intermediate Machine Operators nfd	4	3	4	17	3	31	9	72	112	27.7
721 Intermediate Textile/Clothing/ Related Mach Ops	0	0	0	3	3	6	4	16	26	23.1
729 Miscellaneous Intermediate Machine Operators	18	8	9	6	5	46	6	33	85	54.1
731 Road and Rail Transport Drivers	36	18	23	169	34	280	92	863	1 235	22.7
790 Other Intermediate Prod'n and T'port Wkrs nfd	0	0	0	0	0	0	0	0	0	0.0
791 Intermediate Mining and Construction Workers	3	3	0	6	3	15	0	10	25	60.0
799 Misc Intermediate Prod'n and Transport Wkrs	45	19	19	386	32	501	88	832	1 421	35.3
800 Elementary Clerical, Sales and Service Wkrs nfd	3	0	0	0	3	6	4	15	25	24.0
811 Elementary Clerks	165	58	74	85	187	569	202	1 564	2 335	24.4

	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total	Percentage with quals
820 Elementary Sales Workers nfd	0	0	0	0	0	0	3	28	31	0.0
821 Sales Assistants	192	70	50	71	93	476	132	1 417	2 025	23.5
829 Miscellaneous Elementary Sales Workers	87	31	32	21	30	201	46	447	694	29.0
831 Elementary Service Workers	178	110	87	553	163	1 091	278	2 385	3 754	29.1
900 Labourers and Related Workers nfd	7	4	6	41	5	63	39	484	586	10.8
911 Cleaners	186	128	84	700	212	1 310	831	10 536	12 677	10.3
920 Factory Labourers nfd	0	0	0	0	0	0	0	0	0	0.0
921 Process Workers	0	5	0	26	6	37	18	169	224	16.5
922 Product Packagers	0	3	0	3	4	10	0	43	53	18.9
990 Other Labourers and Related Workers nfd	0	0	0	5	3	8	4	26	38	21.1
991 Mining, Construction and Related Labourers	12	0	6	61	18	97	38	387	522	18.6
992 Agricultural and Horticultural Labourers	20	7	16	83	21	147	38	510	695	21.2
993 Elementary Food Preparation and Related Wkrs	58	27	26	89	67	267	191	1 836	2 294	11.6
999 Miscellaneous Labourers and Related Workers	61	31	47	598	56	793	118	1 041	1 952	40.6
099 Inadequately described	361	68	69	293	63	854	143	886	1 883	45.4
Not stated	219	56	40	36	18	369	164	413	946	39.0
Not applicable	–	–	–	–	–	–	–	–	–	–
Total	**279 559**	**61 816**	**23 502**	**17 234**	**13 650**	**395 761**	**23 212**	**121 090**	**540 063**	**73.3**

Note: nfd = not further defined

Source: ABS, 1996 Census of population and housing

Table A14.8: Qualifications of education industry workers by ASCO 4-digit, 1996 Census

Education ASCO code and occupation	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total	Percentage with quals
1000 Managers and Administrators nfd	708	99	79	63	49	998	75	362	1435	69.5
1100 Generalist Managers nfd	0	0	0	0	0	0	0	0	0	0.0
1110 Gen Managers and Administrators nfd	0	0	0	0	0	0	0	3	3	0.0
1111 Legislators and Gov't Appt Officials	54	6	3	0	3	66	7	15	88	75.0
1112 General Managers	691	68	49	47	29	884	43	165	1 092	81.0
1190 Misc Generalist Managers nfd	0	0	0	0	0	0	0	0	0	0.0
1191 Building and Construction Managers	15	11	14	69	6	115	21	69	205	56.1
1192 Importers, Exporters and Wholesalers	3	3	0	0	0	6	0	4	10	60.0
1193 Manufacturers	3	0	0	7	0	10	0	7	17	58.8
1200 Specialist Managers nfd	165	21	18	10	9	223	11	48	282	79.1
1210 Resource Managers nfd	45	9	7	3	9	73	3	42	118	61.9
1211 Finance Managers	560	68	105	29	48	810	50	336	1196	67.7
1212 Company Secretaries	10	3	3	3	0	19	0	9	28	67.9
1213 Human Resource Managers	867	122	100	100	73	1 262	71	380	1 713	73.7
1220 Eng, Dist and Process M'gers nfd	0	0	0	0	0	0	0	0	0	0.0
1221 Engineering Managers	20	7	4	8	0	39	4	0	43	90.7
1222 Production Managers	39	7	13	25	5	89	7	49	145	61.4
1223 Supply and Distribution Managers	24	7	16	15	11	73	0	46	119	61.3
1224 Information Technology Managers	368	15	30	13	17	443	10	82	535	82.8

Education	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total	Percentage with quals
1231 Sales and Marketing Managers	317	35	23	21	24	420	22	140	582	72.2
1290 Misc Specialist Managers nfd	33	0	3	3	0	39	3	4	46	84.8
1291 Policy and Planning Managers	230	17	13	4	6	270	13	46	329	82.1
1292 Health Services Managers	35	5	3	3	7	53	3	11	67	79.1
1293 Education Managers	15 819	2 103	926	97	72	19 017	289	649	19 955	95.3
1294 Commissioned Officers (M'gment)	10	0	3	3	0	16	0	8	24	66.7
1295 Childcare Co-ordinators	323	184	142	78	29	756	56	265	1 077	70.2
1296 Media Prods and Artistic Directors	39	17	5	6	0	67	9	22	98	68.4
1299 Other Specialist Managers	753	93	118	66	46	1 076	49	176	1 301	82.7
1310 Farmers and Farm Managers nfd	48	27	8	16	8	107	8	66	181	59.1
1311 Mixed Crop and Livestock Farmers	7	10	0	3	6	26	3	22	51	51.0
1312 Livestock Farmers	40	13	11	10	8	82	5	51	138	59.4
1313 Crop Farmers	21	8	20	25	10	84	6	57	147	57.1
1314 Aquaculture Farmers	0	0	0	0	0	0	0	0	0	0.0
2000 Professionals nfd	4 962	226	121	48	48	5 405	122	562	6 089	88.8
2100 Science, Bldg and Eng Profs nfd	0	0	0	0	0	0	0	0	0	0.0
2110 Natural and Physical Sci Profs nfd	46	0	0	0	0	46	0	4	50	92.0
2111 Chemists	371	7	8	3	0	389	3	19	411	94.6
2112 Geologists and Geophysicists	150	3	3	3	0	159	4	10	173	91.9
2113 Life Scientists	776	7	10	4	7	804	7	39	850	94.6
2114 Environmental and Ag Science Profs	372	11	17	36	19	455	13	65	533	85.4
2115 Medical Scientists	1 130	28	21	3	8	1 190	16	56	1 262	94.3

Education	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total	Percentage with quals
2119 Oth Natural and Physical Sci Profs	284	3	3	0	0	290	3	10	303	95.7
2120 Building and Engineering Profs nfd	255	11	13	12	3	294	7	18	319	92.2
2121 Architects and L'scape Architects	65	8	3	4	0	80	3	0	83	96.4
2122 Quantity Surveyors	0	0	0	0	0	0	0	0	0	0.0
2123 Cartographers and Surveyors	20	7	10	3	3	43	3	9	55	78.2
2124 Civil Engineers	62	8	4	3	0	77	3	3	83	92.8
2125 Electrical and Electronics Eng'rs	147	5	9	14	0	175	10	14	199	87.9
2126 Mechanical Prod'n and Plant Eng'rs	33	3	3	8	0	47	0	7	54	87.0
2127 Mining and Materials Engineers	17	0	0	0	0	17	0	0	17	100.0
2128 Engineering Technologists	6	0	3	0	0	9	0	3	12	75.0
2129 Oth Building and Engineering Profs	52	4	3	0	0	59	3	7	69	85.5
2200 Business and Information Profs nfd	35	3	5	0	3	46	4	18	68	67.6
2210 Acc'ts, Auditors and Corp Treas nfd	0	0	0	0	0	0	0	0	0	0.0
2211 Accountants	860	130	258	15	95	1 358	181	942	2 481	54.7
2212 Auditors	88	8	11	0	3	110	0	19	129	85.3
2213 Corporate Treasurers	3	0	3	0	0	6	3	7	16	37.5
2220 Sales, Mktg and Advert'g Profs nfd	0	0	0	0	0	0	0	0	0	0.0
2221 Marketing and Advertising Profs	465	64	52	22	55	658	55	302	1 015	64.8
2222 Technical Sales Representatives	30	3	10	3	5	51	5	48	104	49.0
2231 Computing Professionals	2 107	112	254	68	100	2 641	103	627	3 371	78.3
2290 Misc Business and Info Profs nfd	22	0	3	3	0	28	0	8	36	77.8
2291 Human Resource Professionals	2 202	421	434	464	318	3 839	343	1 663	5 845	65.7

Education	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total	Percentage with quals
2292 Librarians	2 293	104	127	5	69	2 598	76	243	2 917	89.1
2293 Math'ns, Stat'ns and Actuaries	353	4	4	0	3	364	4	32	400	91.0
2294 Business and Organisation Analysts	371	41	32	18	19	481	16	102	599	80.3
2295 Property Professionals	13	4	4	4	3	28	0	11	39	71.8
2299 Oth Business and Information Profs	442	38	47	21	24	572	30	168	770	74.3
2300 Health Professionals nfd	3	3	0	0	0	6	3	0	9	66.7
2310 Medical Practitioners nfd	3	0	0	0	0	3	0	0	3	100.0
2311 Generalist Medical Practitioners	199	3	3	0	3	208	4	4	216	96.3
2312 Specialist Medical Practitioners	174	5	0	0	0	179	3	3	185	96.8
2320 Nursing Professionals nfd	6	0	0	0	0	6	0	0	6	100.0
2321 Nurse Managers	7	14	0	0	3	24	4	0	28	85.7
2322 Nurse Educators and Researchers	254	74	3	0	3	334	16	7	357	93.6
2323 Registered Nurses	315	363	12	3	33	726	65	33	824	88.1
2324 Registered Midwives	20	3	0	0	0	23	0	0	23	100.0
2325 Registered Mental Health Nurses	13	13	3	0	0	29	5	3	37	78.4
2326 Reg Dev'mental Disability Nurses	5	11	0	0	3	19	0	3	22	86.4
2380 Misc Health Professionals nfd	0	0	0	0	0	0	0	0	0	0.0
2381 Dental Practitioners	42	0	0	0	0	42	0	3	45	93.3
2382 Pharmacists	61	0	0	0	0	61	0	0	61	100.0
2383 Occupational Therapists	131	24	0	0	0	155	8	0	163	95.1
2384 Optometrists	47	0	0	0	0	47	0	3	50	94.0
2385 Physiotherapists	142	45	0	0	0	187	3	0	190	98.4
2386 Speech Pathologists	353	17	0	0	3	373	12	8	393	94.9
2387 Chiropractors and Osteopaths	3	0	0	0	0	3	0	0	3	100.0
2388 Podiatrists	6	4	0	0	0	10	0	0	10	100.0
2391 Medical Imaging Professionals	17	10	3	0	0	30	3	0	33	90.9

Education	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total	Percentage with quals
2392 Veterinarians	112	0	0	0	0	112	0	0	112	100.0
2393 Dietitians	20	3	0	0	3	26	3	3	32	81.3
2394 Natural Therapy Professionals	3	3	0	0	0	6	5	0	11	54.5
2399 Other Health Professionals	35	5	0	4	0	44	0	5	49	89.8
2400 Education Professionals nfd	1 297	187	47	15	3	1 549	28	51	1 628	95.1
2410 School Teachers nfd	9 247	2 308	528	132	96	12 311	749	1 590	14 650	84.0
2411 Pre-Primary School Teachers	4 677	3 385	519	87	25	8 693	233	351	9 277	93.7
2412 Primary School Teachers	58 240	24 672	6 260	62	66	89 300	1 770	1 758	92 828	96.2
2413 Secondary School Teachers	80 588	9 752	930	208	123	91 601	1 395	2 142	95 138	96.3
2414 Special Education Teachers	7 028	1 560	382	48	42	9 060	267	417	9 744	93.0
2420 Uni and Vocational Ed Teachers nfd	1 020	135	58	64	18	1 295	53	93	1 441	89.9
2421 University Lecturers and Tutors	27 709	455	185	77	47	28 473	344	1 162	29 979	95.0
2422 Vocational Education Teachers	13 005	5 121	1 481	1 572	625	21 804	969	1 468	24 241	89.9
2490 Misc Education Professionals nfd	23	3	0	0	0	26	3	0	29	89.7
2491 Extra-Systemic Teachers	4 521	1 579	836	410	403	7 749	1 307	4 920	13 976	55.4
2492 ESL Teachers	3 949	382	104	5	8	4 448	122	101	4 671	95.2
2493 Education Officers	4 324	476	247	146	200	5 393	221	1 136	6 750	79.9
2500 Social, Arts and Misc Profs nfd	6	0	0	0	0	6	0	0	6	100.0
2510 Social Welfare Professionals nfd	65	0	3	0	0	68	0	4	72	94.4
2511 Social Workers	162	8	7	0	3	180	7	15	202	89.1
2512 Welfare and Community Workers	334	86	73	37	38	568	39	210	817	69.5
2513 Counsellors	2 255	161	61	24	34	2 535	52	265	2 852	88.9
2514 Psychologists	1 300	22	3	3	0	1 328	6	23	1 357	97.9
2515 Ministers of Religion	453	58	17	16	10	554	68	57	679	81.6
2520 Misc Social Professionals nfd	3	0	0	0	0	3	0	0	3	100.0
2521 Legal Professionals	163	0	0	0	0	163	3	16	182	89.6
2522 Economists	152	0	0	0	0	152	0	9	161	94.4

Education	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total	Percentage with quals
2523 Urban and Regional Planners	28	3	0	0	0	31	3	0	34	91.2
2529 Other Social Professionals	398	20	21	8	25	472	48	128	648	72.8
2530 Artists and Related Profs nfd	112	14	3	6	4	139	8	34	181	76.8
2531 Visual Arts and Crafts Profs	42	20	0	44	8	114	9	95	218	52.3
2532 Photographers	38	10	19	4	18	89	9	25	123	72.4
2533 Designers and Illustrators	179	94	36	45	12	366	27	81	474	77.2
2534 Journalists and Related Profs	224	13	7	8	12	264	13	65	342	77.2
2535 Authors and Related Professionals	100	5	3	4	3	115	4	18	137	83.9
2536 Film, TV, Radio and Stage Directors	65	12	7	12	6	102	12	38	152	67.1
2537 Musicians and Related Profs	279	64	25	21	4	393	40	189	622	63.2
2538 Actors, Dancers and Related Profs	28	14	12	3	4	61	15	75	151	40.4
2539 Media Presenters	3	0	0	5	3	11	0	3	14	78.6
2540 Misc Professionals nfd	0	0	0	0	0	0	0	0	0	0.0
2541 Air Transport Professionals	26	48	4	10	3	91	19	20	130	70.0
2542 Sea Transport Professionals	3	5	7	6	4	25	3	4	32	78.1
2543 Occ and Environmental Health Profs	89	15	16	13	9	142	9	47	198	71.7
2549 Other Professionals	224	12	25	18	16	295	21	149	465	63.4
3000 Associate Professionals nfd	52	4	16	10	26	108	17	98	223	48.4
3100 Sci, Eng and Rel Assoc Profs nfd	301	61	228	259	61	910	40	132	1 082	84.1
3110 Medical and Science Tech Offs nfd	181	30	86	52	55	404	45	230	679	59.5
3111 Medical Technical Officers	73	15	58	22	19	187	12	60	259	72.2
3112 Science Technical Officers	856	176	477	252	401	2 162	208	1 066	3 436	62.9
3120 Bldg and Eng Associate Profs nfd	11	4	27	23	3	68	6	14	88	77.3
3121 Bldg, Arch and Survey'g Assoc Profs	54	17	45	98	13	227	17	26	270	84.1

Education	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total	Percentage with quals
3122 Civil Engineering Assoc Profs	7	4	10	21	0	42	3	9	54	77.8
3123 Electrical Eng Associate Profs	11	3	20	29	3	66	6	11	83	79.5
3124 Electronic Eng Associate Profs	106	44	165	222	61	598	34	116	748	79.9
3125 Mechanical Eng Associate Profs	0	5	18	40	0	63	0	4	67	94.0
3129 Other Building and Eng Assoc Profs	8	5	4	18	5	40	0	6	46	87.0
3200 Business and Admin Assoc Profs nfd	6	0	3	3	4	16	0	17	33	48.5
3210 Finance Associate Profs nfd	0	0	0	0	0	0	0	0	0	0.0
3211 Branch Acc'ts and M'gers (Fin Inst)	4	0	0	3	0	7	3	3	13	53.8
3212 Financial Dealers and Brokers	155	12	56	12	40	275	31	271	577	47.7
3213 Financial Investment Advisers	25	3	3	3	3	37	3	12	52	71.2
3290 Misc Bus and Admin Assoc Profs nfd	30	3	5	5	8	51	0	25	76	67.1
3291 Office Managers	537	129	155	87	235	1 143	233	1 290	2 666	42.9
3292 Project and Program Administrators	2 504	310	437	326	470	4 047	383	2 671	7 101	57.0
3293 Real Estate Associate Profs	19	3	6	18	4	50	5	33	88	56.8
3294 Computing Support Technicians	405	63	144	51	95	758	57	516	1 331	56.9
3300 Man'g Supervis (Sales and Serv) nfd	3	0	0	0	0	3	3	3	9	33.3
3311 Shop Managers	52	31	17	25	31	156	45	245	446	35.0
3320 Hospitality and Accom M'gers nfd	0	3	0	3	0	6	0	3	9	66.7
3321 Restaurant and Catering Managers	51	83	26	149	88	397	162	1 567	2 126	18.7
3322 Chefs	6	10	8	193	9	226	23	61	310	72.9
3323 Hotel and Motel Managers	11	0	3	0	0	14	0	7	21	66.7
3324 Club Managers (Lic Premises)	3	0	0	0	0	3	0	7	10	30.0
3325 C'van Park and Camp'g Ground M'gers	0	3	0	3	0	6	0	3	9	66.7
3329 Other Hospitality and Accom M'gers	60	11	10	13	7	101	10	103	214	47.2
3390 Misc Man Supers (Sales and Serv) nfd	0	0	0	0	0	0	0	0	0	0.0
3391 Sport and Recreation Managers	40	8	8	5	4	65	6	37	108	60.2
3392 Customer Service Managers	95	17	16	13	10	151	4	51	206	73.3

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3393 Transport Company Managers	3	0	0	0	0	3	3	6	12	25.0
3399 Oth Man'g Supervis (Sales and Serv)	170	44	49	67	42	372	60	284	716	52.0
3400 Health and Welfare Assoc Profs nfd	0	0	0	0	0	0	0	0	0	0.0
3411 Enrolled Nurses	15	34	52	11	58	170	11	22	203	83.7
3421 Welfare Associate Professionals	190	40	75	48	46	399	42	149	590	67.6
3490 Misc Hlth and W'fare Ass Profs nfd	0	0	0	0	0	0	0	0	0	0.0
3491 Ambulance Officers and Paramedics	3	0	3	0	0	6	3	4	13	46.2
3492 Dental Associate Professionals	3	10	11	9	16	49	5	4	58	84.5
3493 Aboriginal and TS Island Hlth Wkrs	0	0	3	0	0	3	0	0	3	100.0
3494 Massage Therapists	6	3	3	0	0	12	0	4	16	75.0
3900 Other Associate Profs nfd	0	0	0	0	0	0	0	0	0	0.0
3911 Police Officers	17	0	5	5	9	36	9	25	70	51.4
3990 Misc Associate Professionals nfd	3	0	0	0	0	3	0	0	3	100.0
3991 Primary Products Inspectors	0	0	0	3	0	3	0	3	6	50.0
3992 Safety Inspectors	20	12	8	10	7	57	7	24	88	64.8
3993 Sportspsns, Coaches and Rel Sup Wkrs	141	34	18	27	19	239	36	522	797	30.0
3994 Snr Non-Commis Defence Frce Offs	3	0	0	0	0	3	0	0	3	100.0
3995 Senior Fire Fighters	0	0	3	0	0	3	3	0	6	50.0
3996 Retail Buyers	0	0	0	0	3	3	0	5	8	37.5
3997 Library Technicians	354	151	874	33	168	1 580	158	813	2 551	61.9
3999 Other Misc Associate Profs	22	3	3	6	0	34	0	19	53	64.2

Education	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total	Percentage with quals
4000 Tradespersons and Related Wkrs nfd	27	12	20	139	13	211	22	93	326	64.7
4100 Mech and Fabric'n Eng Trades nfd	0	0	0	0	0	0	0	3	3	0.0
4110 Mechanical Eng Trades nfd	0	0	0	0	0	0	0	0	0	0.0
4111 General Mechanical Eng Trades	0	0	0	11	0	11	0	4	15	73.3
4112 Metal Fitters and Machinists	9	6	14	236	8	273	15	182	470	58.1
4113 Toolmakers	0	0	0	21	3	24	0	8	32	75.0
4114 Aircraft Maintenance Engineers	3	0	0	6	3	12	0	8	20	60.0
4115 Precision Metal Tradespersons	11	6	12	55	3	87	4	20	111	78.0
4120 Fabrication Eng Trades nfd	0	0	0	0	0	0	0	0	0	0.0
4121 General Fabrication Eng Trades	3	0	0	3	0	6	0	6	12	50.0
4122 Struct'l Steel and Welding Trades	3	0	4	46	10	63	12	105	180	35.0
4123 Forging Tradespersons	0	0	0	0	0	0	0	0	0	0.0
4124 Sheetmetal Tradespersons	0	0	0	3	0	3	0	10	13	23.1
4125 Metal Casting Tradespersons	3	0	0	0	0	3	0	0	3	100.0
4126 Metal Finishing Tradespersons	0	0	0	0	0	0	0	0	0	0.0
4210 Automotive Tradespersons nfd	0	0	0	3	0	3	0	5	8	37.5
4211 Motor Mechanics	8	8	3	78	0	97	12	177	286	33.9
4212 Automotive Electricians	0	0	3	0	0	3	0	5	8	37.5
4213 Panel Beaters	0	0	0	6	0	6	0	14	20	30.0
4214 Vehicle Painters	0	0	0	3	0	3	0	7	10	30.0
4215 Vehicle Body Makers	0	0	0	0	0	0	0	0	0	0.0
4216 Vehicle Trimmers	0	0	0	0	0	0	0	3	3	0.0
4310 Electric and Electronics Trades nfd	0	0	4	4	0	8	3	15	26	30.8
4311 Electricians	18	6	23	350	11	408	26	508	942	43.3
4312 Refrigeration and Aircon Mechanics	6	0	5	46	0	57	3	22	82	69.5
4313 Electrical Distribution Trades	0	0	0	3	0	3	0	0	3	100.0

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4314 Electronic Instrument Trades	3	0	0	0	0	3	0	0	3	100.0
4315 Electronic and Office Equip Trades	115	31	106	72	31	355	35	217	607	58.5
4316 Communications Tradespersons	4	3	5	39	3	54	10	38	102	52.9
4400 Construction Tradespersons nfd	0	0	0	3	0	3	0	15	18	16.7
4410 Structural Const'n Trades nfd	0	0	0	3	0	3	0	6	9	33.3
4411 Carpentry and Joinery Tradespersons	4	5	14	562	20	605	74	490	1 169	51.8
4412 Fibrous Plasterers	0	0	0	6	0	6	4	25	35	17.1
4413 Roof Slaters and Tilers	0	0	0	0	0	0	0	3	3	0.0
4414 Bricklayers	0	0	0	21	0	21	3	62	86	24.4
4415 Solid Plasterers	0	0	0	0	0	0	0	0	0	0.0
4416 Wall and Floor Tilers and Stonemasons	0	0	0	10	0	10	3	20	33	30.3
4420 Final Finish Const'n Trades nfd	0	0	0	3	0	3	0	3	6	50.0
4421 Painters and Decorators	0	4	3	115	4	126	24	175	325	38.8
4422 Signwriters	0	0	0	7	0	7	3	4	14	50.0
4423 Floor Finishers	0	0	0	0	0	0	0	3	3	0.0
4431 Plumbers	6	3	5	179	7	200	17	148	365	54.8
4510 Food Tradespersons nfd	0	0	0	0	0	0	0	0	0	0.0
4511 Meat Tradespersons	0	0	0	11	0	11	0	10	21	52.4
4512 Bakers and Pastrycooks	0	0	0	7	0	7	3	14	24	29.2
4513 Cooks	13	20	18	112	27	190	70	614	874	21.7
4519 Other Food Tradespersons	0	0	0	0	0	0	0	0	0	0.0
4600 Skilled Ag and Horticult Wkrs nfd	0	0	0	0	0	0	0	0	0	0.0
4610 Skilled Agricultural Wkrs nfd	0	0	0	0	0	0	0	0	0	0.0
4611 Farm Overseers	0	3	6	0	3	12	0	9	21	57.1
4612 Shearers	0	0	0	0	0	0	0	3	3	0.0
4613 Wool, Hide and Skin Classers	0	0	0	0	0	0	3	0	3	0.0

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Education	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total	Percentage with quals
4614 Animal Trainers	0	3	0	0	0	3	0	5	8	37.5
4620 Horticultural Tradespersons nfd	0	0	4	9	3	16	4	27	47	34.0
4621 Nurserypersons	5	0	4	8	0	17	0	14	31	54.8
4622 Greenkeepers	51	35	62	678	86	912	182	1 841	2 935	31.1
4623 Gardeners	57	39	68	425	73	662	151	1 479	2 292	28.9
4900 Oth Tradespersons and Rel Wkrs nfd	0	0	0	0	0	0	0	0	0	0.0
4910 Printing Tradespersons nfd	0	0	3	0	0	3	0	0	3	100.0
4911 Graphic Pre-Press Tradespersons	4	0	0	12	0	16	3	21	40	40.0
4912 Print Mach and Sml Offset Printers	9	9	3	96	9	126	26	144	296	42.6
4913 Binders and Finishers	3	0	0	21	3	27	0	19	46	58.7
4914 Screen Printers	0	0	3	3	0	6	3	5	14	42.9
4920 Wood Tradespersons nfd	0	0	0	0	0	0	0	3	3	0.0
4921 Wood Machinists and Turners	0	0	3	25	0	28	4	14	46	60.9
4922 Cabinetmakers	3	0	0	33	0	36	5	52	93	38.7
4929 Other Wood Tradespersons	3	0	0	4	0	7	0	4	11	63.6
4931 Hairdressers	3	0	0	27	0	30	3	7	40	75.0
4940 Textile, Clothing and Rel Trades nfd	0	0	0	0	0	0	0	0	0	0.0
4941 Clothing Tradespersons	3	4	5	0	4	16	9	42	67	23.9
4942 Upholsterers and Bedding Trades	0	0	0	4	0	4	0	8	12	33.3
4943 Footwear Tradespersons	0	0	0	0	0	0	0	0	0	0.0
4944 Leather and Canvas Goods and Sail Mkrs	0	0	0	0	0	0	0	0	0	0.0
4980 Misc Tradespersons and Rel Wkrs nfd	0	0	0	0	0	0	0	0	0	0.0
4981 Marine Construction Trades	3	0	0	5	0	8	0	5	13	61.5
4982 Glass Tradespersons	0	0	0	10	3	13	4	12	29	44.8
4983 Jewellers and Rel Tradespersons	0	0	3	3	0	6	0	0	6	100.0

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4984 Florists	0	0	0	0	0	0	0	3	3	0.0
4985 Fire Fighters	4	3	0	17	3	27	6	26	59	45.8
4986 Drillers	0	0	0	0	0	0	0	0	0	0.0
4987 Chem, Petroleum and Gas Plant Ops	6	3	0	3	0	12	3	3	18	66.7
4988 Power Generation Plant Operators	0	0	0	3	0	3	0	0	3	100.0
4991 Defence Force Members NEI	0	0	3	3	0	6	3	14	23	26.1
4992 Performing Arts Support Workers	69	23	51	59	39	241	20	141	402	60.0
4999 Oth Misc Tradespersons and Rel Wkrs	0	0	3	12	3	18	4	20	42	42.9
5000 Adv Clerical and Service Wkrs nfd	4	0	3	0	0	7	0	4	11	63.6
5111 Secretaries and Personal Assistants	681	413	431	124	1 573	3 222	1 570	6 335	11 127	29.0
5900 Oth Adv Clerical and Serv Wkrs nfd	3	0	3	0	0	6	0	0	6	100.0
5910 Advanced Numerical Clerks nfd	0	0	0	0	0	0	0	0	0	0.0
5911 Bookkeepers	240	125	173	61	273	872	344	1 976	3 192	27.3
5912 Credit and Loans Officers	0	0	0	0	3	3	4	14	21	14.3
5990 Misc Adv Clerical and Serv Wkrs nfd	0	0	0	0	0	0	0	0	0	0.0
5991 Advanced Legal and Related Clerks	4	3	0	3	4	14	0	34	48	29.2
5992 Court and Hansard Reporters	3	0	0	0	0	3	0	3	6	50.0
5993 Insurance Agents	0	0	0	0	3	3	0	4	7	42.9
5994 Insur Survey/Investig/Adjustors	6	0	0	0	0	6	0	3	9	66.7
5995 Desktop Publishing Operators	45	15	16	13	30	119	20	115	254	46.9
5996 Travel Attendants	0	3	0	0	0	3	0	0	3	100.0
5999 Oth Misc Adv Cleric and Serv Wkrs	6	0	0	0	0	6	0	6	12	50.0

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6000 Int Cleric, Sales and Serv Wkrs nfd	33	13	14	17	35	112	51	264	427	26.2
6100 Intermediate Clerical Wkrs nfd	6	0	0	0	3	9	3	23	35	25.7
6111 General Clerks	1 229	331	516	272	1 087	3 435	1 052	7 232	11 719	29.3
6121 Keyboard Operators	367	134	195	82	569	1 347	571	2 893	4 811	28.0
6131 Receptionists	166	97	122	68	362	815	299	1 879	2 993	27.2
6140 Intermed Numerical Clerks nfd	0	0	0	0	0	0	0	3	3	0.0
6141 Accounting Clerks	182	58	143	23	120	526	113	894	1 533	34.3
6142 Payroll Clerks	51	22	48	10	45	176	47	420	643	27.4
6143 Bank Workers	5	3	3	0	0	11	3	21	35	31.4
6144 Insurance Clerks	11	3	0	3	3	20	4	16	40	50.0
6145 Money Market and Statistical Clerks	18	0	4	3	4	29	0	21	50	58.0
6150 Material Rec and Despatch Clerk nfd	0	0	0	0	0	0	0	0	0	0.0
6151 Production Recording Clerks	6	0	4	3	4	17	0	22	39	43.6
6152 Transport and Despatching Clerks	19	4	8	7	5	43	3	60	106	40.6
6153 Stock and Purchasing Clerks	53	25	42	139	53	312	71	500	883	35.3
6190 Misc Intermed Clerical Wkrs nfd	0	0	0	0	0	0	0	0	0	0.0
6191 Inquiry and Admissions Clerks	171	30	47	22	65	335	44	347	726	46.1
6192 Library Assistants	713	185	351	99	291	1 639	380	2 652	4 671	35.1
6193 Personnel Clerks	42	12	14	9	13	90	10	100	200	45.0
6194 Intermed Inspectors and Examiners	25	0	3	6	6	40	5	38	83	48.2
6199 Other Intermediate Clerical Wkrs	26	9	9	6	9	59	13	67	139	42.4
6210 Intermediate Sales and Rel Wkrs nfd	0	0	0	0	0	0	0	0	0	0.0
6211 Sales Representatives	38	11	8	15	14	86	11	64	161	53.4

Education	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total	Percentage with quals
6212 Motor Veh and Rel Prods Salespsns	0	0	0	3	0	3	0	5	8	37.5
6213 Retail and Checkout Supervisors	16	29	15	29	49	138	84	760	982	14.1
6300 Intermediate Service Wkrs nfd	4	3	0	6	0	13	3	17	33	39.4
6310 Carers and Aides nfd	7	8	4	8	7	34	8	46	88	38.6
6311 Education Aides	2 063	1 935	1 223	1 469	1 912	8 602	2 854	21 271	32 727	26.3
6312 Children's Care Workers	380	315	534	467	250	1 946	464	3 202	5 612	34.7
6313 Special Care Workers	173	103	94	74	64	508	77	664	1 249	40.7
6314 Personal Care and Nursing Assists	10	5	3	9	11	38	14	83	135	28.1
6320 Hospitality Workers nfd	0	0	0	0	0	0	3	14	17	0.0
6321 Hotel Service Supervisors	3	5	3	3	0	14	7	73	94	14.9
6322 Bar Attendants	18	3	0	3	10	34	7	109	150	22.7
6323 Waiters	25	4	5	9	12	55	26	347	428	12.9
6324 Hospitality Trainees	0	0	0	5	3	8	3	47	58	13.8
6390 Misc Intermed Service Wkrs nfd	0	0	0	0	0	0	3	0	3	0.0
6391 Dental Assistants	10	6	3	0	18	37	27	20	84	44.0
6392 Veterinary Nurses	0	3	5	16	0	24	3	7	34	70.6
6393 Prison Officers	0	0	3	12	3	18	3	11	32	56.3
6394 Gaming Workers	0	0	0	0	0	0	0	3	3	0.0
6395 Personal Care Consultants	8	10	4	7	4	33	11	22	66	50.0
6396 Fitness Instructors and Rel Wkrs	104	21	16	14	14	169	48	198	415	40.7
6397 Travel and Tourism Agents	36	4	7	8	3	58	10	50	118	49.2
6399 Other Intermediate Service Wkrs	194	92	82	415	84	867	205	1 484	2 556	33.9
7000 Int Prod'n and Transport Wkrs nfd	3	0	0	6	0	9	0	15	24	37.5
7100 Intermediate Plant Operators nfd	0	0	0	9	3	12	0	6	18	66.7
7110 Mobile Plant Operators nfd	0	0	0	0	0	0	0	3	3	0.0

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7111 Mobile Construction Plant Ops	0	0	0	3	3	6	4	27	37	16.2
7112 Forklift Drivers	1	0	0	5	0	8	0	12	20	40.0
7119 Other Mobile Plant Operators	0	0	3	3	3	9	0	22	31	29.0
7120 Int Stationary Plant Ops nfd	0	0	0	0	0	0	0	0	0	0.0
7121 Engine and Boiler Operators	0	0	0	12	4	16	0	10	26	61.5
7122 Crane, Hoist and Lift Operators	0	0	0	0	0	0	3	3	6	0.0
7123 Engineering Prod'n Systems Wkrs	0	0	0	7	0	7	3	9	19	36.8
7124 Pulp and Paper Mill Operators	0	0	0	3	0	3	0	3	6	50.0
7129 Other Int Stationary Plant Ops	0	0	0	0	0	0	0	6	6	0.0
7200 Intermed Machine Operators nfd	4	0	4	17	3	28	9	72	109	25.7
7210 Int Text, Clthg and Rel Mach Ops nfd	0	0	0	0	0	0	0	0	0	0.0
7211 Sewing Machinists	0	3	0	3	3	9	3	12	24	37.5
7212 Textile and F'wear Prod'n Mach Ops	3	0	0	0	0	3	0	4	7	42.9
7290 Misc Int Machine Operators nfd	0	0	0	0	0	0	0	0	0	0.0
7291 Plastics Production Machine Ops	0	0	0	0	0	0	0	3	3	0.0
7292 Rubber Production Machine Ops	0	0	0	0	0	0	0	0	0	0.0
7293 Chemical Production Machine Ops	0	0	0	0	0	0	0	0	0	0.0
7294 Wood Processing Machine Ops	0	0	0	3	0	3	0	6	9	33.3
7295 Paper Products Machine Operators	3	0	0	3	0	6	0	0	6	100.0
7296 Glass Production Machine Ops	0	0	0	0	0	0	0	0	0	0.0
7297 Clay, Stone, C'crete Proc Mach Ops	0	0	0	0	0	0	0	4	4	0.0
7298 Photograph Developers and Printers	17	8	9	0	3	37	6	17	60	61.7
7299 Other Intermed Machine Operators	0	0	0	0	0	0	0	0	0	0.0

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7310 Road and Rail T'port Drivers nfd	8	3	3	47	6	67	16	162	245	27.3
7311 Truck Drivers	6	0	0	16	3	25	14	119	158	15.8
7312 Bus and Tram Drivers	22	13	16	89	18	158	50	475	683	23.1
7313 Automobile Drivers	0	0	0	0	0	0	0	20	20	0.0
7314 Delivery Drivers	5	0	4	12	6	27	10	87	124	21.8
7315 Train Drivers and Assistants	0	0	0	4	0	4	0	0	4	100.0
7900 Oth Int Prod'n and T'port Wkrs nfd	0	0	0	0	0	0	0	0	0	0.0
7910 Int Mining and Const'n Wkrs nfd	0	0	0	0	0	0	0	0	0	0.0
7911 Miners	0	3	0	3	0	6	0	3	9	66.7
7912 Blasting Workers	0	0	0	0	0	0	0	0	0	0.0
7913 Structural Steel Const'n Workers	0	0	0	3	0	3	3	3	9	33.3
7914 Insul'n and Home Improv Installers	0	0	0	3	0	3	3	4	10	30.0
7990 Misc Int Prod'n and T'port Wkrs nfd	0	0	0	0	0	0	0	0	0	0.0
7991 Motor Veh Parts and Access Fitters	0	0	0	3	0	3	0	0	3	100.0
7992 Product Quality Controllers	3	0	0	3	0	6	3	8	17	35.3
7993 Storepersons	37	13	15	354	27	446	70	640	1 156	38.6
7994 Seafarers and Fishing Hands	0	0	0	4	0	4	0	7	11	36.4
7995 Forestry and Logging Workers	3	0	0	15	0	18	8	122	148	12.2
7996 Printing Hands	6	5	3	8	0	22	5	53	80	27.5
8000 Ele Cleric, Sales and Serv Wkrs nfd	3	0	0	0	3	6	4	15	25	24.0
8110 Elementary Clerks nfd	16	6	5	5	25	57	25	161	243	23.5
8111 Registry and Filing Clerks	92	37	39	47	113	328	117	815	1 260	26.0
8112 Mail Sorting Clerks	9	3	6	10	5	33	7	83	123	26.8
8113 Switchboard Operators	10	7	7	9	21	54	29	229	312	17.3

Education	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total	Percentage with quals
8114 Messengers	0	0	0	3	0	3	0	16	19	15.8
8115 Betting Clerks	0	0	0	0	0	0	0	0	0	0.0
8116 Office Trainees	12	4	15	9	21	61	21	220	302	20.2
8119 Other Elementary Clerks	19	3	3	4	0	29	0	38	67	43.3
8200 Elementary Sales Workers nfd	3	0	0	0	0	3	3	28	34	8.8
8211 Sales Assistants	192	70	50	71	93	476	132	1 417	2 025	23.5
8290 Misc Elementary Sales Wkrs nfd	0	0	0	0	0	0	0	0	0	0.0
8291 Checkout Operators and Cashiers	14	5	13	3	13	48	18	189	255	18.8
8292 Ticket Salespersons	10	3	0	0	3	16	3	27	46	34.8
8293 Street Vendors and Related Wkrs	22	9	4	0	3	38	12	37	87	43.7
8294 Telemarketers	7	7	6	3	3	26	5	56	87	29.9
8295 Sales Demonstrators and Models	33	6	6	6	5	56	5	58	119	47.1
8296 Service Station Attendants	0	0	0	0	0	0	0	9	9	0.0
8297 Sales and Service Trainees	3	0	0	5	0	8	3	53	64	12.5
8299 Other Elementary Sales Workers	3	0	0	0	0	3	0	18	21	14.3
8310 Elementary Service Workers nfd	0	0	0	3	0	3	0	7	10	30.0
8311 Guards and Security Officers	36	7	19	158	26	246	77	554	877	28.1
8312 Ushers, Porters and Related Workers	8	0	0	10	3	21	3	48	72	29.2
8313 Domestic Housekeepers	0	3	0	3	4	10	3	62	75	13.3
8314 Caretakers	24	16	20	285	27	372	57	641	1 070	34.8
8315 Laundry Workers	7	4	0	7	5	23	15	207	245	9.4
8319 Other Elementary Service Workers	104	80	47	88	98	417	123	866	1 406	29.7
9000 Labourers and Related Workers nfd	7	4	6	41	5	63	39	484	586	10.8
9111 Cleaners	186	128	84	700	212	1 310	831	10 536	12 677	10.3
9200 Factory Labourers nfd	0	0	0	0	0	0	0	0	0	0.0

Education	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total	Percentage with quals
9210 Process Workers nfd	0	0	0	4	3	7	4	25	36	19.4
9211 Eng Production Process Workers	0	0	3	14	4	21	9	35	65	32.3
9212 Product Assemblers	0	3	0	4	0	7	0	34	41	17.1
9213 Meat and Fish Process Workers	0	0	0	0	0	0	0	3	3	0.0
9214 Other Food Factory Hands	0	0	0	0	0	0	3	4	7	0.0
9215 Wood Products Factory Hands	0	0	0	0	0	0	0	8	8	0.0
9219 Other Process Workers	3	3	3	3	0	12	3	62	77	15.6
9220 Product Packagers nfd	0	0	0	0	0	0	0	0	0	0.0
9221 Hand Packers	6	3	0	0	3	12	3	37	52	23.1
9222 Packagers and Container Fillers	3	3	0	0	0	6	0	6	12	50.0
9900 Other Labourers and Rel Wkrs nfd	0	0	0	5	0	5	4	26	35	14.3
9910 Mine, Const'n and Rel Labourers nfd	0	0	0	3	0	3	3	18	24	12.5
9911 Mine Sup Wkrs and Driller's Assists	0	0	0	3	0	3	0	0	3	100.0
9912 Earthmoving Labourers	6	0	0	4	4	14	5	53	72	19.4
9913 Paving and Surfacing Labourers	0	0	0	3	0	3	0	26	29	10.3
9914 Survey Hands	3	0	0	0	0	3	0	5	8	37.5
9915 Railway Labourers	0	0	0	0	0	0	0	6	6	0.0
9916 Const'n and Plumber's Assistants	4	0	3	30	4	41	17	169	227	18.1
9917 Concreters	0	0	0	11	3	14	6	53	73	19.2
9918 Elect'l and Telecomm'n Trades Ass	0	0	0	6	0	6	0	16	22	27.3
9919 Oth Mine, Const'n and Rel Labourers	3	0	0	0	3	6	6	40	52	11.5
9920 Ag and Horticultural Labourers nfd	3	0	0	0	0	3	0	3	6	50.0
9921 Farm Hands	10	4	9	41	12	76	17	192	285	26.7
9922 Nursery and Garden Labourers	6	3	5	32	6	52	17	254	323	16.1
9929 Oth Ag and Horticultural Labourers	7	0	0	10	3	20	4	63	87	23.0
9930 Elem Food Prep'n and Rel Wkrs nfd	0	0	0	0	0	0	0	0	0	0.0
9931 Kitchenhands	55	27	26	87	66	261	187	1 820	2 268	11.5
9932 Fast Food Cooks	0	0	0	0	0	0	4	15	19	0.0

Education	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total	Percentage with quals
9933 Food Trades Assistants	0	0	0	0	0	0	0	0	0	0.0
9990 Misc Labourers and Rel Wkrs nfd	0	0	0	0	0	0	0	0	0	0.0
9991 Garbage Collectors	0	0	0	4	0	4	0	22	26	15.4
9992 Freight and Furniture Handlers	0	0	0	3	0	3	0	7	10	30.0
9993 Handypersons	52	28	43	568	48	739	110	933	1 782	41.5
9999 Other Misc Labourers and Rel Wkrs	5	3	3	22	6	39	8	78	125	31.2
0998 Inadequately described	361	68	69	293	63	854	143	886	1 883	45.4
Not stated	219	56	40	36	18	369	164	413	946	39.0
Not applicable	–	–	–	–	–	–	–	–	–	–
Total	**27 9577**	**61 827**	**23 508**	**17 247**	**13 612**	**395 771**	**23 201**	**121 094**	**540 066**	**73.3**

Note: nfd – not further defined

Source: ABS, 1996 Census of population and housing

15 Health and community services

THE HEALTH AND community services industry is the fourth largest industry division in Australia, with almost 800 000 persons employed in the sector. This represents about 9.4% of the total workforce.[1] The industry includes publicly and privately provided health services and hospitals, childcare services, aged accommodation, residential and non-residential care services and nursing homes.

Employment in the health and community services industry has grown by 39%, or by nearly 225 000 positions since 1987, almost twice as much as the labour force as a whole.

In 1995–1996 total expenditure on health services in Australia was about $41.7 billion and expenditure on community service activities amounted to about $9.7 billion. Together this expenditure represents about 10.5% of Australian gross domestic product (GDP).[2]

Just over two-thirds of health sector spending in Australia is government expenditure while, in the community service sector, governments account for about 27% of total spending.

In 1994–1995 there were about 56 300 establishments in the health and community services industry, most of them classified as small businesses. In 1993–1994 labour costs in this sector were below the average for all industries, at $28 847 per person per year, compared with the all-industry average of $32 755. The industry is the most female-dominated industry in Australia, with over 77% of the workers in the sector females, about two-thirds of them married women. It is the second largest industry of employment for women (in terms of the number of jobs) after manufacturing. It is also the second largest source of part-time jobs for women after retailing and it is one of only two industries in Australia where there are more full-time females employed than full-time males (the other being education). With 38% of the jobs in the sector part time, the health and community services industry has the lowest average of weekly hours worked per person of all industries in Australia. The hospitals and nursing home sector accounts for almost one half (48%) of all jobs in the industry.

The industry has about the same proportion of persons born outside Australia as does the workforce as a whole. The sector is the second largest employer of professionals and of those with a bachelor's degree or higher qualification after education, in the Australian labour market. It is the major employer of those with an undergraduate diploma, largely nursing, The health and community services sector is much more dependent on the vocational education and training (VET) sector than is commonly supposed. It is the major employer of those with a basic VET qualification, and also the third largest employer of those with an associate diploma. However, it is much less significant as an employer of those with a skilled VET qualification, such as tradespersons.

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[1] Australian Bureau of Statistics (ABS), *Labour force, Australia*, cat.6203.0, November 1997

[2] Industry Commission, *Report on government services 1998*, chapters on health and community services

The health and community services industry is not a large spender on its own training. In the 1996 Australian Bureau of Statistics (ABS) training expenditure survey, the industry was a below-average spender on structured training per employee at $129.90 per person in the September quarter of that year, compared with the all-industry average of $185. Fewer than 20% of employers in the sector provided structured training in the September quarter. Although the proportion varied between health, with only 16% of employers providing structured training in the September quarter of 1996, and community services, with nearly 36% providing such training.

Table 15.1: Employment ('000s) in health and community services by sub-division, by gender and type of employment, Australia, November 1997

Industry sub-division	Males	Females	Full-time	Part-time	Total
Health Services	*145.1*	*472.3*	*388.8*	*228.6*	*617.4*
Hospitals and nursing homes	79.3	303.0	243.6	138.7	382.3
Medical and dental services	29.8	82.9	66.2	46.5	112.7
Other health services	33.6	81.7	74.1	41.3	115.4
Veterinary services	2.4*	4.7	4.9	2.2*	7.1
Community services	*17.9*	*143.2*	*105.3*	*75.8*	*181.1*
Childcare services	2.9*	54.8	36.7	21.0	57.8
Community care services	14.9	88.4	68.6	54.7	123.3
Total	**183.0**	**615.5**	**494.1**	**304.4**	**798.5**

Note: *Subject to sampling variability too high for most practical uses

Source: Australian Bureau of Statistics (ABS), *Labour force, Australia, cat.6203.0, November 1997*

In 1996, 7.5% of students enrolled in VET in Australia were studying courses in the health and community services field of study.[1] These courses accounted for 7.9% of total course hours during 1996. In the technical and further education (TAFE) graduate destination survey for 1997 (GDS), compiled by the National Centre for Vocational Education Research (NCVER), health and community services was the major industry of employment of the graduates responding to the survey, with 14.2% or 6109 employed in that sector. In the survey on employer satisfaction with VET for 1997 (ESS), also compiled by NCVER, employers in the health and community services industry gave VET training providers an average rating on their overall satisfaction with VET, a score of 6.7 on a 10-point scale.

An industry snapshot

The health and community services industry has been one of the major areas of employment growth in Australia over the last decade, adding more than 25 000 jobs to the national workforce since 1987. Only property and business services and retailing grew by a greater amount over that period.

The following chart on long-term employment trends shows that over the last 10 years the strongest growth within this industry has been in the smaller community services sub-division. Employment in this area has doubled since 1987. Over the same period, employment in the numerically larger health sub-division has grown by 25%.

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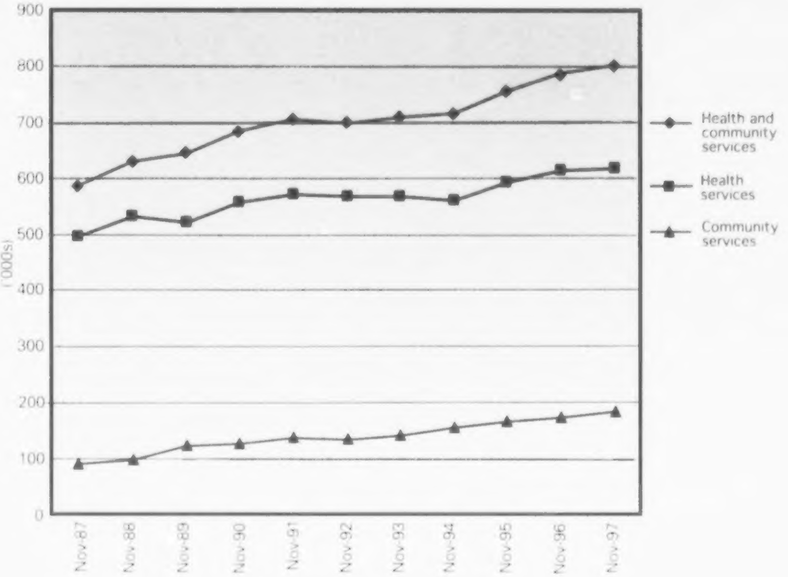
[1] NCVER, *Australian vocational education and training statistics 1996: In detail*

Chart 15.1: Employment in health and community services, Australia, November 1987–November 1997 (ABS labour force survey)



Source: ABS, *Labour force, Australia*, cat.6203.0, 1987–1997

Within the health sector, a range of services are provided both by government and non-government agencies, including private medical, dental and other health-related professional services, hospitals, community health services and nursing homes. Of the $41.7 billion spent on health services in 1995–1996, 67.7% or $28.2 billion was government expenditure. Over the last few years total health spending has been rising, although non-government spending has generally grown more rapidly, mainly through health insurance providers and other insurers.

Most government spending on health services, about 37%, is allocated to public hospitals, while other major areas are medical services 25% (mainly Medicare), and pharmaceuticals (mainly through the pharmaceutical benefits scheme) and nursing homes, both getting 9%.

Government spending on the 616 acute-care hospitals in Australia in 1995–1996 amounted to $11.1 billion or $614 per person.

The community services sub-division covers a range of private and public services, the main areas being childcare services, aged accommodation provision, residential and non-residential care and nursing homes. The private sector can be further divided between for-profit and not-for-profit providers. In June 1996 the ABS estimates that out of a total of just over 8000 businesses/organisations in the sector, there were nearly 5900 not-for-profit organisations, about 2000 for-profit organisations, and 423 government organisations.

An important feature of employment in this sub-division is the substantial level of voluntary workers in the sector. The following table summarises some of the characteristics of the sector, broken down into these three types of provider, as at June 1996.

Table 15.2: Establishment, employees and volunteers in the community services sector, Australia, 1996

	Type of provider			Total
	For-profit	Not-for-profit	Government	
Establishments	2 228	5 385	423	8 036
Employees	73 870	188 352	65 680	327 902
Volunteers	4 844	256 667	23 036	284 547
Total workers	**78 714**	**445 019**	**88 716**	**612 449**

Source: ABS, *Community services, Australia, preliminary*, cat.8694.0, 1996

The major areas of expenditure by *government organisations* were:

❖ residential care and accommodation support	$959.6m
❖ personal and social support	$786.6m
❖ childcare	$255.3m

Expenditure by *not-for-profit* organisations was in the following main areas:

❖ residential care and accommodation support	$2693.6m
❖ personal and social support	$710.5m
❖ childcare	$413.2m
❖ training and employment services	$380.4m

For-profit organisations' expenditure was in the following main areas:

❖ residential care and support	$1408.8m
❖ childcare	$374.8m

- Health and community services has provided employment growth over the last decade of about 225 000 jobs, second only to property and business services.
- Employment in the community services sub-division has doubled over the last decade.
- Governments in Australia are responsible for more than two-thirds of expenditure on health.
- Over 46% of workers in the community services area are volunteers.
- Health and community services is the second largest area of employment for women and the second largest provider of part-time jobs.

The following table shows the level of employment by full-time and part-time employment by the main areas of activity, together with employment data on nursing homes, which was also included as a category in the ABS publication (cat.8694.0) but is technically part of the health sub-division. The following table includes only employees, and does not include volunteers.

Table 15.3: Employment in community services by type of activity, by full-time/part-time, Australia

	Childcare	Aged accommodation	Residential care	Non-residential care	Nursing homes	Total
Full-time	15 436	10 009	8 475	24 437	22 185	80 542
Part-time	20 898	24 521	11 126	38 074	81 889	176 508
Total	**36 334**	**34 530**	**19 601**	**62 511**	**104 074**	**257 050**

Source: ABS, *Community services, Australia, preliminary*, cat.8694.0

Occupational composition

The occupational profile of this sector is very different from the overall workforce, with a high concentration of professionals and also a high proportion of intermediate clerical and service workers. It has a low proportion of managers and administrators, tradespersons and lower-skilled jobs. As noted earlier, this industry has the second greatest number of professionals, after education, out of all industry sectors.

Table 15.4: Occupational profile, health and community services and total workforce, Australia, November 1997

Occupation group	Health and community services %	Total workforce %
Managers and administrators	2.3	7.6
Professionals	40.4	17.4
Associate professionals	10.9	10.5
Tradespersons and related	2.5	13.2
Advanced clerical and service	3.0	4.5
Intermediate clerical/sales/service	30.4	17.1
Intermediate production/transport	0.8	9.2
Elementary clerical/sales/service	1.9	10.5
Labourers and related	7.9	10.1
Total	**100.0**	**100.0**

Source: ABS, *Labour force, Australia*, cat.6203.0, November 1997

Qualifications profile

Reflecting the occupational composition of the industry, the qualifications profile is heavily skewed towards holders of university qualifications. The following table shows the high proportion of workers in the industry, 49%, with university and higher-VET-level qualifications, and the relatively low proportion of workers in the sector who lack a post-school qualification. It is not apparent from these data whether those workers classified as intermediate clerical and service workers would normally be expected to hold a formal qualification. The proportion of workers with a VET qualification that would match this occupation (30.4% of the total) seems inadequate. This might indicate a gap in VET provision.

Table 15.5: Qualifications of health and community services workers, percentage distribution, Australia, May 1997

	Bachelor's degree or higher	Diploma/ associate diploma	Skilled vocational	Basic vocational	Without post-school qualification
Health and community services	32.6	16.4	3.2	12.7	34.8
Total industry	**17.2**	**9.0**	**12.6**	**9.4**	**49.4**

Source: ABS, *Transition from education to work*, cat.6227.0, May 1997

Occupational trends and skills shortages

As noted earlier, employment in the health and community services industry has grown strongly over the last decade or so, especially in the smaller community service sub-division. Table A15.2 in the notes at the end of this chapter provides information at the detailed occupational level of the main shifts in employment within the sector between 1987 and 1996. At the broader level, employment over that period, despite rising overall, actually declined in the tradespersons category and rose very little in the labourers and related workers, and plant operators, and drivers categories.

Strong gains in employment occurred in the professional, para-professional, clerical, and especially in the personal service workers categories. In terms of numerical growth, some of the greatest changes occurred in:

- specialist medical practitioners – up 5 000
- social workers – up 4 100
- ministers of religion – down 6 600
- registered nurses – up 15 200
- welfare para-professionals – up 7 100
- accounting clerks – up 14 700
- receptionists and information clerks – up 13 200
- childcare refuge and related workers – up 49 600
- home companions and aides – up 9 200
- other personal service workers – up 4 600
- ward helpers – up 6 700

The rise in the number of childcare, refuge and related workers is astonishing and translates to a percentage increase of over 300% over the decade. Further analysis of the implications of this increase for the training system appears warranted.

In the 1997 ESS, employers in the health and community services industry were, with retailing industry employers, the most likely to respond that the VET sector was not producing sufficient graduates for their industry's needs. In that survey over a third of respondents in this industry said there were insufficient graduates, while 62.6% said that there were sufficient. Overall responses for all industry sectors were 67.1% saying 'yes' there were sufficient graduates, and 27.5% saying 'no', with 5.3% undecided.

Employers who identified shortages in the health and community services industry nominated the personal services worker category (52%), followed by professionals (18%), para-professionals (16%), and clerks (14%). Unfortunately there was no more detailed breakdown of these categories available. The national industry training advisory body (ITAB), Community Services and Health Training Australia, reported shortages in the areas of childcare co-ordinator, childcare worker and family-care worker.

Hours of work and earnings

As noted earlier, this industry is a major provider of part-time employment, being the second largest area of part-time jobs, after retailing, for women. The following table shows the percentage distribution of employment by sex and hours worked.

Table 15.6: Employment in health and community services, by sex and hours worked, Australia, November 1997

	Full-time ('000s)		Part-time ('000s)		Total ('000s)	
	No.	%	No.	%	No.	%
Males	155.5	31.5	27.4	3.6	183.0	22.9
Females	338.6	68.5	277.0	96.4	615.5	77.1
Total	**494.1**	**100.0**	**304.4**	**100.0**	**798.5**	**100.0**

Source: ABS, *Labour force, Australia*, cat.6203.0, 1997

Average weekly hours worked in the sector are the lowest of all industries at 30.4 hours per person per week, reflecting the industry's relatively high level of part-time work. Average weekly earnings in May 1996 for all employees were $531.20, well below the all-industries average of $573.70. Full-time adult weekly earnings were, however, at $660.10, just below the all-industry average of $663.10. Full-time junior non-managerial earnings, at $264.70, were the lowest junior rates of all industries, substantially below average junior rates of $319.70.

Geographical distribution of health and community services

Table 15.7 below shows the numbers of males, females and persons employed in this industry by State/Territory in August 1995. Table 15.8 which follows it shows that employment in this sector is distributed very much in line with total employment in

Australia, with only a slight deviation in the case of South Australia, which appears to be a little over-represented in this industry.

Table 15.7: Employment ('000s) in health and community services by State/Territory, 1995

	NSW	Vic	Qld	SA	WA	Tas	NT	ACT
Males	62.5	42.0	34.3	17.3	14.8	5.2	1.7*	1.8*
Females	190.5	143.6	93.5	59.7	58.8	15.5	5.1	10.8
Total	**253.0**	**185.6**	**127.9**	**77.0**	**73.6**	**20.7**	**6.8**	**12.5**

Note: *Subject to sampling variability too high for most practical uses

Source: ABS, *Labour force, Australia*, cat.6204.0, 1995

Table 15.8: Share of employment in health and community services by State, by share of total jobs, Australia, 1995

State	% employed in health and community services	% employed in all industries
NSW	33.4	33.5
Vic	24.5	25.0
Qld	16.9	18.3
SA	10.2	8.0
WA	9.7	10.1
Tas	2.7	2.4
NT	0.9	1.0
ACT	1.7	2.0
Total	**100.0**	**100.0**

Source: ABS, *Labour force, Australia*, cat.6204.0, 1995

Age distribution

The following table shows the age distribution of workers in the health and community services industry. The workforce in the sector is somewhat older than the workforce as a whole, with only 10.4% aged under 25, compared with 18.4% in the workforce overall. This probably reflects the high level of professionals employed in the industry, which eliminates the option of employing young people in a substantial proportion of the industry's jobs.

One issue which has been raised in relation to the industry's age distribution relates to the largest component of the professional workforce, nursing. With the current decline in enrolments in nursing, possibly linked to the changes in tertiary funding arrangements, and a relatively high age of the nursing workforce, there is concern that shortages of nurses could emerge in the future if enrolments do not recover.

Table 15.9: Age of health and community services workforce, Australia, November 1997

	Age group						Total
	15–19	20–24	25–34	35–44	45–54	55 and over	
No. in health and community services ('000s)	14.3	68.7	200.5	245.9	193.3	75.7	798.5
% in health and community services	1.8	8.6	25.1	30.8	24.2	9.5	100.0
% in total workforce	**6.9**	**11.5**	**25.2**	**25.6**	**21.1**	**9.8**	**100.0**

Source: ABS, *Labour force, Australia*, cat.6203.0, November 1997

- Health and community services is the second largest employing sector for professionals, after education, and has a very low proportion of workers without post-school qualifications.
- The number of childcare, refuge and related workers rose by over 300% over the last decade.
- Employers in health and community services were among the most likely to say that there were insufficient VET graduates to meet their needs.
- Lower enrolments in nursing degrees, combined with an ageing workforce, suggest shortages might emerge in the future.

Training in health and community services

As has been shown in an earlier section of this chapter, the health and community services industry is more reliant upon the higher education sector than most other industries. Nevertheless, the industry is also a significant employer of VET graduates, as shown by the fact that about the same proportion of workers in the industry have a bachelors or higher qualification, as have some other post-school qualification.

The community services, health and education training area represented about 8.6% of all government-funded VET activity in 1995, rising to an estimated 9.3% in 1996. This translates to about 32 hours of VET training per person employed in the health and community services industry, a little higher than the average of 27 hours across all sectors.

In 1996 annual hours of training delivered in the community services, health and education field of study represented almost 8% of total VET delivered. Enrolments in this field of study represented 7.5% of all enrolments. This is a little below the industry's overall share of employment in Australia. Nearly 40% of the hours delivered in the community services, health and education field of study in 1996 were in courses at the associate diploma level or higher.

Employer satisfaction with VET

In the 1997 ESS, 238 of the 2687 employers interviewed were in the health and community services industry. Their mean overall level of satisfaction with VET was equal to the mean of all industries, rating 6.7 on the 10-point scale used. Variations between the States and Territories were not marked, with Queensland and Tasmania scoring lowest on 6.3, and Victoria scoring the highest rating of 7.

When asked to nominate the area of VET provision most in need of improvement, employers in this sector were different in their responses to employers overall. Important areas for improvement nominated were:

- teachers' ability and experience
- the balance in the course between theory and practice
- graduates' work ethic

Only the third area above was regarded by all employers as a high priority for improvement, implying that employers in health and community services were relatively happier with course content and the work skills of their graduates than most employers. These were areas commonly cited as needing improvement by employers in other industries.

VET graduates in health and community services

The 1997 TAFE GDS, conducted in mid-1997, obtained responses from 60 746 TAFE graduates, 43 119 of whom were employed at the time of the survey. Of these employed graduates, 14.2% or 6109 were working in the health and community services industry at the time of the survey.

This meant that health and community services was the single largest destination industry for TAFE graduates in 1997. In the earlier 1995 survey, health and community services was the third largest destination.

While employers in the industry were only moderately satisfied with overall VET delivery, TAFE graduates working in the industry gave the relevance of their training the second highest rating (61.5%), rating it 'highly relevant'. This was second only to construction, where 68.9% of graduates rated their training highly relevant. When the two highest ratings, 'highly relevant' and 'some relevance' are taken together, the industry rated third, behind construction, and electricity, gas and water.

Graduates employed in the industry were asked to rate a number of aspects of their course on a 10-point scale. On most issues graduates working in health and community services gave a higher rating than graduates overall. Issues on which health and community services graduates gave an above-average rating were (with comparison showing percentage of respondents giving a 7 or better rating in this industry against total responses):

	Health and community services industry responses	Total responses (all industries)
❖ instructors' knowledge of course content	86%	85%
❖ course content reflecting industry practice	77%	72%
❖ presentation of course material	78%	73%
❖ information received when choosing course	61%	59%
❖ information about careers and jobs	50%	41%
❖ value of course for job prospects	78%	72%
❖ qualification well regarded by employers	71%	65%
❖ balance between instruction and practice	72%	70%
❖ overall quality of the course	86%	84%

Only on two criteria did the respondents rate their course below average:

	Health and community services industry responses	Total responses (all industries)
❖ convenience of venue and class times	74%	75%
❖ enough equipment for practising skills	58%	60%

On the questions why they had undertaken their course and whether they had achieved the reason for undertaking the course, most graduates working in the health and community services industry identified the main motivation as being to get a job. Of the 1468 graduates giving this reason, 1122 (76%) had achieved their objective and a further 205 (14%) had partly achieved it. The comparable percentages for all graduates identifying this as their prime motivation were 65% 'yes' and 17% 'in part'.

Other important motivations for graduates working in health and community services were:

- ❖ to try for a different career (1081), of whom 70% were successful
- ❖ to get extra skills for my job (1207), of whom 83% were successful
- ❖ to get a better job or a promotion (870), of whom 64% were successful

Unlike graduates in many other industries, relatively few respondents (only 466 or about 7.5%) gave, as a reason, that doing the course was a requirement of their job. Is this perhaps one of the reasons why graduates in this industry gave an overall higher rating to their courses than graduates who were required to undertake their course?

- About as many workers in this industry hold a VET-level qualification as hold a university qualification.
- Employers expressed only average-level satisfaction with VET provision, wanting improvements in teachers' ability and experience and in the balance between theory and practice in course work.
- VET graduates working in health and community services gave above-average ratings to almost all aspects of their course and, in contrast to employers, gave a high rating to their teachers' knowledge.
- Health and community services was the single largest destination industry for TAFE graduates in the 1997 GDS (14.2% employed in this industry).

Employment outcomes

While there were just over 6100 graduates working in the industry in the survey, somewhat more, 7822 or 12.9% of the total, had actually undertaken a course in the health and community services field of study. The main courses undertaken were:

- certificate (other) – 2156
- advanced certificate – 1180
- Australian Qualification Framework (AQF) certificate III – 1174
- associate diploma – 1027
- AQF diploma – 902

Of the 7822 graduates from this field of study, 74.7% were employed at the time of the survey, divided almost evenly between full-time and part-time work. This compared with 71% of the total group surveyed, although the majority, about 67%, of those employed in the total group were working full time.

Almost 80% of the students graduating from the health and community services field of study were doing their course for vocational reasons. Prominent among the vocational motivations were:

- to get a job (28%)
- to try for a different career (18.4%)
- to get extra skills for my job (15.5%)

A high proportion, 60.9%, of graduates in health and community services courses who were working when surveyed rated their course highly relevant. This compared with only 49% of all employed graduates. These graduates also identified a range of benefits received as a result of their studies. Of the 5840 graduates from this field of study who were employed, 37% either found a job or changed jobs, 33.6% received an increase in earnings and 19% received a promotion.

Graduates employed in health and community services were among the lower-paid graduates, in part reflecting the high level of part-time work in the sector. Nevertheless, average full-time earnings, at $503 per week, were at the lower end of the scale for full-time earnings, which ranged from a high of $917 for workers in mining, to a low of $436 in accommodation, cafés and restaurants. As with all other industries, female full-time earnings were below male earnings, in this case by a substantial $187, ($602 versus $485). Because of the variability of hours worked, no comparisons can be made in part-time earnings.

- Graduates working in health and community services were almost evenly divided between those working full time and part time whereas, overall, two-thirds of surveyed graduates were working full time.
- Of those graduates who had completed a course in the health and community services field of study, over 70% had either found a job, gained a promotion or received an increase in earnings as a result of undertaking their course.
- Average weekly full-time earnings in the industry are at the lower end of the scale for TAFE graduates.

Employer support for training

Around half the graduates in this field of study who were employed during their final semester received some form of financial assistance from their employer, mainly as paid fees and paid time off work. Graduates in the health and community services field of study were more likely than graduates in any other field—other than in arts, humanities and social sciences—to be working on a part-time basis. Similarly, 46% of graduates working in the health and community services industry were working part time, in percentage terms the third highest area of part-time jobs by industry, but the area with the greatest number of graduates, 2809, working part time.

Of those graduates *working* in the health and community services industry in their final semester, as opposed to those described above who studied in this field, only 45.7% overall received some form of financial assistance. This was below the all-industry average of around 51%. Of those working in the industry when surveyed, a relatively low 58.5% had been working on graduation. Across all industries, 66% of employed graduates were working when they graduated.

Some training issues in health and community services

- Given the high proportion of voluntary workers in the industry, what role should the VET sector play in providing training for these workers?
- Is there sufficient VET provision for middle-level 'intermediate clerical and service workers' who make up 30% of the industry?
- What impact would a reduction in the supply of registered nurses have upon demand for enrolled nurses and nurses aides?
- Is the extremely rapid expansion in the number of childcare, refuge and related workers that has occurred over the last decade likely to continue and are there adequate training arrangements in place?
- Should the industry, especially the health sub-division, be making a greater contribution to meeting its own skill needs?
- Does the low average weekly hours worked in this industry pose special considerations in addressing future labour market needs?
- In light of the industry's distribution, which closely matches the population, should future skills output levels be predicated on at least maintaining certain occupation:population ratios?

The following key issues were identified by the national ITAB, Community Services and Health Training Australia, in its industry plan submitted to the Australian National Training Authority (ANTA) in 1997:

- expand existing and future English language, literacy and numeracy programs to meet industry-wide needs
- identify broad transferable worker competencies within a framework that addresses the needs of Aboriginal and Torres Strait Islander (ATSI) communities
- investigate ways and means of providing effective training for unpaid workers in the industry
- address increased training needs for small business and the non-government sector
- address skill shortages

Notes

The following table is extracted from the ANTA resource allocations for 1997 document, available at their website. It shows the planned allocations of government-funded training between the ANTA-defined 'training areas' in terms of 'annual hours curriculum' (AHC).

Table A15.1: Key national shifts in activity between 1996 revised estimates and 1997 projected activity (AHC '000s)

Industry training area	1996 revised	1997 projected	Total increase	Total increase as % of 1996 revised	% of overall increase
Category A					
Arts, Entert, Sports and Rec	11 408	11 928	520	4.6	5.5
Automotive	8 221	8 576	355	4.3	3.7
Building and Construction	18 785	19 009	224	1.2	2.4
Comm Services, Health and Ed	20 910	22 382	1 471	7.0	15.5
Finance, Banking and Insurance	3 420	3 468	48	1.4	0.5
Food Processing	2 454	2 851	396	16.1	4.2
TCF and Furnishings	5 714	5 813	100	1.7	1.0
Communications	1 883	1 963	80	4.3	0.8
Engineering and Mining	15 654	16 607	952	6.1	10.0
Primary Industry	11 874	12 217	343	2.9	3.6
Process Manufacturing	397	479	82	20.6	0.9
Sales and Personal Service	6 527	6 752	225	3.4	2.4
Tourism and Hospitality	16 707	18 151	1 444	8.6	15.2
Transport and Storage	1 686	1 851	164	9.8	1.7
Utilities	11 898	12 145	247	2.1	2.6
Category B					
Business and Clerical	42 412	43 117	705	1.7	7.4
Computing	11 969	12 641	672	5.6	7.1
Science, Technical and Other	6 727	6 870	143	2.1	1.5
Category C					
Gen Education and Training	40 046	41 212	1 166	2.9	12.3
Unallocated	622	779	157	25.2	1.6
Total	**239 316**	**248 810**	**9 494**	**4.0**	**100.0**

Note: TCF – textiles, clothing and footwear

Source: Publications, *ANTA Resource Allocations 1997*, <www.anta.gov.au>

Table A15.2: Employed persons by occupation in the health and community services industry, 1987 and 1996

Occupation (ASCO 4-digit)	1987	1996	Change 1987 to 1996	
				Average annual
	('000s)	('000s)	('000s)	%
1315 Directors of nursing	2.6	4.2	1.6	5.6
2301 General medical practitioners	29.0	30.2	1.2	0.5
2303 Specialist medical practitioners	10.5	15.5	5.0	4.6
2305 Dental practitioners	5.7	8.4	2.7	4.5
2309 Occupational therapists	4.4	5.2	0.8	1.9
2313 Physiotherapists	7.3	9.9	2.6	3.5
2321 Radiographers	3.6	5.7	2.1	5.4
2323 Veterinarians	2.5	5.1	2.6	8.5
2399 Other health diagnosis and treatment practitioners	3.9	6.3	2.4	5.6
2505 Extra-systemic teachers and instructors	2.8	4.2	1.4	4.7
2601 Social workers	4.3	8.4	4.1	8.0
2603 Counsellors	1.2	4.6	3.4	16.6
2607 Ministers of religion	7.0	0.4	–6.6	–27.9
2903 Psychologists	1.1	3.6	2.5	14.5
3101 Medical technical officers and technicians	6.9	10.4	3.5	4.8
3401 Registered nurses	136.6	151.8	15.2	1.2
3901 Welfare para-professionals	9.0	16.1	7.1	6.9
3909 Ambulance officers	4.6	5.7	1.1	2.5
4705 Cooks	8.2	9.0	0.8	1.1
4999 Other tradespersons	4.2	2.8	–1.4	–4.5
5101 Office secretaries and stenographers	14.8	15.0	0.2	0.2
5103 Typists and typist-clerks	5.2	2.2	–3.0	–9.4
5201 Data processing machine operators	3.1	6.5	3.4	8.8
5301 Accounting clerks	11.7	26.4	14.7	9.7
5401 Library and filing clerks	2.4	5.4	3.0	9.7
5601 Receptionists and information clerks	44.9	58.1	13.2	3.0
5999 Other clerks	4.6	1.7	–2.9	–10.8
6601 Childcare refuge and related workers	12.8	62.4	49.6	19.8
6603 Enrolled nurses	38.4	39.3	0.9	0.3
6605 Dental nurses	9.7	9.8	0.1	0.1
6607 Home companions and aides	1.7	10.9	9.2	23.7
6699 Other personal service workers	0.7	5.3	4.6	26.0
8301 Cleaners	35.9	35.7	–0.2	–0.1

Occupation (ASCO 4-digit)	1987	1996	Change 1987 to 1996	
				Average annual
	('000s)	('000s)	('000s)	%
8917 Laundry workers	6.6	3.2	–3.4	–7.9
8919 Kitchenhands	18.2	17.9	–0.3	–0.2
8921 Ward helpers	33.4	40.1	6.7	2.1
8999 Other labourers and related workers	3.8	6.6	2.8	6.5
Other occupations	70.5	104.5	34.0	4.6
Total all occupations	**573.8**	**758.5**	**184.7**	**3.2**

Note: As estimates of less than 3500 are subject to high statistical error, they are listed against specific occupations only where there was a higher estimate in either 1987 or 1996. Where estimates of less than 3500 were recorded for both 1987 and 1996, they are included in the 'other occupations' category.

Australian Standard Classification of Occupations (ASCO)

Source: ABS labour force survey, unpublished data

Table A15.3: Educational attainment of employed persons by industry, occupation (1-digit ASCO) and type of post-school qualification at 1996 Census

Health and community services ASCO code and occupation	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
1 Managers and Administrators	10 161	3 715	2 103	1 133	819	17 931	1 455	4 995	24 381
2 Professionals	159 949	76 175	8 651	2 360	10 007	257 142	19 847	22 762	299 751
3 Associate Professionals	10 247	7 441	8 904	5 189	17 099	48 880	6 474	20 642	75 996
4 Tradespersons and Related Workers	397	467	587	6 005	586	8 042	1 512	8 968	18 522
5 Advanced Clerical and Service Workers	1 439	1 062	681	272	1 916	5 370	2 462	8 547	16 379
6 Intermediate Clerical, Sales and Service Workers	12 406	9 993	9 946	10 307	16 106	58 758	23 381	131 329	213 468
7 Intermediate Production and Transport Workers	146	102	93	795	219	1 355	455	4 902	6 712
8 Elementary Clerical, Sales and Service Workers	646	291	242	622	533	2 334	1 212	10 114	13 660
9 Labourers and Related Workers	888	462	387	2 289	904	4 930	3 786	42 086	50 802
0 Inadequately described	405	134	116	314	120	1 089	349	2 130	3 568
Not stated	194	125	42	66	79	506	418	1 015	1 939
Not applicable	–	–	–	–	–	–	–	–	–
Total	**196 878**	**99 967**	**31 752**	**29 352**	**48 388**	**406 337**	**61 351**	**257 490**	**725 178**

Source: ABS, 1996 Census of population and housing

Table A15.4: Educational attainment of employed persons by industry, occupation (3-digit ASCO) and type of post-school qualification at 1996 Census

Health and community services ASCO code and occupation	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
100 Managers and Administrators not further defined (nfd)	795	291	132	124	91	1 433	182	625	2 240
110 Generalist Managers nfd	0	0	0	0	0	0	0	0	0
111 General Managers and Administrators	2 237	569	210	148	124	3 288	272	937	4 497
119 Miscellaneous Generalist Managers	22	8	12	76	8	126	23	89	238
120 Specialist Managers nfd	106	13	12	5	12	148	5	42	195
121 Resource Managers	1 336	279	237	94	109	2 055	147	709	2 911
122 Engineering, Distribution and Process Managers	328	66	92	100	53	639	59	318	1 016
123 Sales and Marketing Managers	234	57	34	26	19	370	45	170	585
129 Miscellaneous Specialist Managers	5 034	2 372	1 354	514	376	9 650	684	1 929	12 263
131 Farmers and Farm Managers	68	60	20	46	27	221	38	175	434
200 Professionals nfd	1 335	186	70	15	42	1 648	89	179	1 916
210 Science, Building and Engineering Professionals nfd	0	0	0	0	0	0	0	0	0
211 Natural and Physical Science Professionals	5 661	289	268	44	121	6 383	296	245	6 924
212 Building and Engineering Professionals	291	48	90	126	17	572	34	45	651
220 Business and Information Professionals nfd	16	3	0	0	3	22	3	10	35
221 Accountants, Auditors and Corporate Treasurers	1 074	127	294	13	38	1 546	110	353	2 009
222 Sales, Marketing and Advertising Professionals	519	102	60	58	76	815	83	444	1 342
223 Computing Professionals	739	92	147	40	54	1 072	56	368	1 496
229 Miscellaneous Business and Information Profs	2 351	398	371	167	205	3 492	221	1 123	4 836
230 Health Professionals nfd	69	41	7	3	6	126	12	5	143
231 Medical Practitioners	38 821	249	129	48	92	39 339	1 242	888	41 469
232 Nursing Professionals	56 316	64 411	2 233	433	7 329	130 722	13 201	8 760	152 683

Health and community services	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
238 Miscellaneous Health Professionals	31 962	6 180	1 480	292	581	40 495	2 251	2 465	45 211
240 Education Professionals nfd	21	8	0	0	0	29	3	0	32
241 School Teachers	1 960	1 172	589	116	49	3 886	165	414	4 465
242 University and Vocational Education Teachers	309	53	25	32	17	436	31	101	568
249 Miscellaneous Education Professionals	697	193	128	63	61	1 142	94	277	1 513
250 Social, Arts and Miscellaneous Professionals nfd	32	5	4	0	0	41	3	4	48
251 Social Welfare Professionals	16 318	2 186	2 445	687	1 066	22 702	1 580	5 568	29 850
252 Miscellaneous Social Professionals	345	30	28	9	22	[illegible]	67	109	610
253 Artists and Related Professionals	186	74	39	37	32	368	42	266	676
254 Miscellaneous Professionals	924	328	243	176	196	1 867	266	1 136	3 269
300 Associate Professionals nfd	42	30	27	24	45	168	34	136	338
310 Science/Engineering and Related Assoc Profs nfd	63	13	60	28	17	181	24	62	267
311 Medical and Science Technical Officers	1 533	509	1 165	534	611	4 352	686	2 353	7 391
312 Building/Engineering Associate Professionals	108	86	165	194	46	599	60	113	772
320 Business and Administrative Assoc Profs nfd	5	3	3	0	0	11	0	9	20
321 Finance Associate Professionals	170	36	58	10	27	301	41	279	621
329 Miscellaneous Business/Admin Assoc Profs	3 555	1 667	734	582	1 078	7 616	1 350	6 319	15 285
330 Managing Supervisors (Sales and Service) nfd	0	5	3	13	5	26	3	16	45
331 Shop Managers	66	39	61	94	23	283	49	317	649
332 Hospitality and Accommodation Managers	294	352	171	1 409	238	2 464	472	2 643	5 579
339 Miscellaneous Mngr. Supervisors (Sales and Service)	720	232	123	150	97	1 322	146	638	2 106
340 Health and Welfare Assoc Professionals nfd	7	0	0	0	4	11	0	0	11
341 Enrolled Nurses	1 003	2 645	1 839	329	12 839	18 655	1 761	2 724	23 140
342 Welfare Associate Professionals	1 772	645	1 533	608	797	5 355	747	2 454	8 556
349 Miscellaneous Health and Welfare Associate Profs	712	1 096	2 832	1 134	1 136	6 910	1 009	2 178	10 097

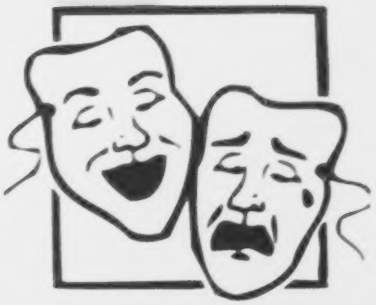
Health and community services	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
390 Other Associate Professionals nfd	0	0	0	0	0	0	0	0	0
391 Police Officers	10	0	4	3	0	17	3	22	42
399 Miscellaneous Associate Professionals	189	82	126	78	134	609	88	378	1 075
400 Tradespersons and Related Workers nfd	3	10	15	200	10	238	22	146	400
410 Mechanical/Fabrication Engineering Trades nfd	0	0	0	3	0	3	0	0	3
411 Mechanical Engineering Tradespersons	51	31	51	640	49	822	88	353	1 263
412 Fabrication Engineering Tradespersons	3	0	4	58	4	69	13	63	145
421 Automotive Tradespersons	3	0	3	218	4	228	19	77	324
431 Electrical and Electronics Trades	27	10	32	699	17	785	48	143	976
440 Construction Tradespersons nfd	0	0	0	0	0	0	0	0	0
441 Structural Construction Trades	7	7	22	698	10	744	92	226	1 062
442 Final Finishes Construction Trades	5	5	0	331	4	345	36	161	542
443 Plumbers	3	4	6	416	8	437	13	58	508
451 Food Tradespersons	113	122	116	1 053	262	1 666	648	4 945	7 259
460 Skilled Agricultural/Horticultural Workers nfd	0	0	0	0	0	0	0	0	0
461 Skilled Agricultural Workers	8	5	0	5	4	22	3	34	59
462 Horticultural Tradespersons	58	50	51	513	109	781	175	1 689	2 645
490 Other Tradespersons and Related Workers nfd	0	0	0	0	0	0	0	0	0
491 Printing Tradespersons	3	3	0	38	4	48	8	62	118
492 Wood Tradespersons	0	3	0	50	3	56	6	61	123
493 Hairdressers	3	3	0	245	7	258	16	12	286
494 Textile, Clothing and Related Trades	4	6	4	28	8	50	26	219	295
498 Miscellaneous Tradespersons and Related Wkrs	102	207	282	811	84	1 486	298	723	2 507
500 Advanced Clerical and Service Workers nfd	3	0	3	0	0	6	0	3	9
511 Secretaries and Personal Assistants	971	821	488	189	1 657	4 126	2 118	6 562	12 806
590 Other Advanced Clerical and Service Wkrs nfd	0	0	0	0	0	0	0	0	0
591 Advanced Numerical Clerks	440	226	167	65	236	1 134	327	1 863	3 324

Health and community services	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
599 Miscellaneous Advanced Clerical and Service Wkrs	28	15	25	17	23	108	16	118	242
600 Intermediate Clerical, Sales and Service Wkrs nfd	74	59	44	53	234	464	246	694	1 404
610 Intermediate Clerical Workers nfd	5	0	3	3	3	14	6	36	56
611 General Clerks	964	472	443	313	1 162	3 354	1 408	9 136	13 898
612 Keyboard Operators	289	170	186	88	549	1 282	714	3 529	5 525
613 Receptionists	2 310	2 571	1 038	773	3 879	10 571	4 992	26 870	42 433
614 Intermediate Numerical Clerks	372	134	266	79	287	1 138	370	2 923	4 431
615 Material Record and Despatch Clerks	92	44	70	158	108	472	131	1 063	1 666
619 Miscellaneous Intermediate Clerical Workers	524	299	210	194	583	1 810	608	3 602	6 020
621 Intermediate Sales and Related Workers	38	15	14	32	25	124	32	236	392
630 Intermediate Service Workers nfd	16	4	6	4	15	45	13	87	145
631 Carers and Aides	6 941	5 474	7 039	7 766	6 701	33 921	11 312	74 720	119 953
632 Hospitality Workers	44	20	21	53	28	166	127	1000	1 293
639 Miscellaneous Intermediate Service Workers	738	730	606	792	2 532	5 398	3 422	7 433	16 253
700 Intermediate Production and Transport Wkrs nfd	3	0	0	6	3	12	6	49	67
710 Intermediate Plant Operators nfd	0	3	3	8	3	17	0	20	37
711 Mobile Plant Operators	0	3	4	32	4	43	22	200	265
712 Intermediate Stationary Plant Operators	6	0	4	65	59	134	27	115	276
720 Intermediate Machine Operators nfd	9	3	3	21	4	40	25	190	255
721 Intermediate Textile/Clothing/Related Mach Ops	0	3	3	8	3	17	8	170	195
729 Miscellaneous Intermediate Machine Operators	4	4	6	27	11	52	13	146	211
731 Road and Rail Transport Drivers	85	78	58	486	98	805	267	2 924	3 996
790 Other Intermediate Prod'n and T'port Wkrs nfd	0	0	0	0	0	0	0	3	3
791 Intermediate Mining and Construction Workers	0	0	0	9	0	9	0	18	27
799 Misc Intermediate Prod'n and Transport Wkrs	37	10	16	133	33	229	84	1 069	1 382
800 Elementary Clerical, Sales and Service Wkrs nfd	7	5	5	7	8	32	21	232	285
810 Elementary Clerks	118	59	55	60	115	407	219	1 876	2 502

Health and community services	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
820 Elementary Sales Workers nfd	0	0	0	0	0	0	0	13	13
821 Sales Assistants	113	44	36	70	77	340	160	1 315	1 815
829 Miscellaneous Elementary Sales Workers	161	61	54	60	88	424	153	1 202	1 779
831 Elementary Service Workers	246	122	92	425	245	1 130	658	5 476	7 264
900 Labourers and Related Workers nfd	25	14	20	111	49	219	178	2 602	2 999
911 Cleaners	306	194	132	730	375	1 737	1 649	18 602	21 988
920 Factory Labourers nfd	0	0	0	0	0	0	0	67	67
921 Process Workers	15	5	5	31	15	71	117	2 241	2 429
922 Product Packagers	12	3	3	19	7	44	75	1 071	1 190
990 Other Labourers and Related Workers nfd	0	0	0	3	0	3	9	217	229
991 Mining, Construction and Related Labourers	5	4	0	52	6	67	38	597	702
992 Agricultural and Horticultural Labourers	14	3	10	40	12	79	83	1 040	1 202
993 Elementary Food Preparation and Related Wkrs	467	201	178	570	380	1 796	1 395	13 303	16 494
999 Miscellaneous Labourers and Related Workers	44	38	37	733	59	911	241	2 346	3 498
099 Inadequately described	405	134	116	314	120	1 089	349	2 130	3 568
Not stated	194	125	42	66	79	506	418	1 015	1 939
Not applicable	–	–	–	–	–	–	–	–	–
Total	**196 873**	**99 966**	**31 754**	**29 353**	**48 385**	**406 331**	**61 345**	**257 485**	**725 161**

Note: nfd = not further defined

Source: ABS, 1996 Census of population and housing



16 Cultural and recreational services

The cultural and recreational services industry in Australia covers a range of activities. In the cultural sector it includes radio and television broadcasting, the production, distribution and showing of motion pictures, live theatre, music and other live arts. The recreation sector includes horse and dog racing, sports grounds and facilities, sports and services to sport, lotteries, casinos and other gambling services.

With 210 300 persons recorded as employed in the sector in November 1997, or about 2.5% of the total labour force, this is the fourth smallest of the 17 industry divisions in terms of employment size in Australia.[1] Employment is almost evenly divided between males and females. Overseas-born persons make up a slightly smaller proportion of the industry's workforce than they do of the total labour force, representing about 22% of the industry, as against 24% of the total workforce.

An important distinguishing characteristic of the industry is the high level of part-time employment, with over 40% of the 210 300 persons shown in official statistics as employed in the industry as part-time workers. To this figure should be added a substantial number of other workers whose major job might not be in this sector but who participate in the industry in some other role. This comment would apply especially to those engaged in acting and in other cultural activities that do not frequently result in stable permanent employment. In addition to these individuals who make part of their living from this industry sector, it should also be noted that especially in the sport sub-division, unpaid volunteers also make a substantial contribution to the running of organised sport in Australia.

Table 16.1: Employment ('000s) in cultural and recreational services by sub-division, by gender and type of employment, Australia, November 1997

Industry sub-division	Males	Females	Full-time	Part-time	Total
Motion picture, radio and television services	23.6	16.7	29.0	11.3	40.3
Libraries, museums and the arts	26.2	27.5	34.4	19.4	53.8
Sport and recreation	59.8	56.4	61.8	54.5	116.2
Total industry	**109.6**	**100.6**	**125.2**	**85.2**	**210.3**

Source: ABS, *Labour force, Australia* cat.6203.0, November 1997

Most of the strong employment growth in this industry over the last decade has been attributable to the sport sub-division. In November 1987 there were 76 700 persons employed nationally in the sport sub-division. By November 1997 employment in this area had risen by more than 50% to 116 200.

In 1994–1995 it was estimated by the Australian Bureau of Statistics (ABS) that there were over 5000 individual businesses in the sports industry, with a gross income of more than $2.5 billion. Across the whole cultural and recreational services industry at that time there were about 28 200 businesses. In 1995–1996 the gross product of the industry was more than $8.6 billion, representing a little over 2% of total Australian gross product.[2] Gross fixed capital expenditure in the industry has risen very strongly in recent years, from $667 million in 1994–1995 to $1910 million in 1995–1996. This rise of 186% was by far the strongest percentage growth in gross fixed capital expenditure of any of the industry divisions over that period.[3]

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[1] Australian Bureau of Statistics (ABS), *Labour force, Australia*, cat.6203.0, November 1997

New technologies are emerging that will have a major influence on the skill needs of the industry, especially in the cultural services sub-division. These technologies include the development of new applications in the multimedia sector using CD-ROM and digital video disk (DVD), which have implications for broadcasting, and the performing arts. In sport, the preparations for the 2000 Sydney Olympics are causing a strong demand for workers with skills in sport administration and are producing skills shortages in this area, with sporting organisations not part of the Olympics preparation experiencing difficulties in recruiting.

The industry is not one in which employers provide substantial training support to their employees. In the 1996 ABS employer training expenditure survey, employers in this sector for the September quarter spent, on average, $103 per employee on structured training against an all-industry average of $185. Only 10% of employers in the sector were providing training against an all-industry average of 18%.

When interviewed for the survey on employer satisfaction with vocational education and training for 1997 (ESS), compiled by the National Centre for Vocational Education Research (NCVER), employers in this industry had an overall satisfaction equal to the mean response for all industries. The areas most nominated by employers for improvement included the graduates' work skills, graduates' work ethic and ability to work and cope with setbacks without supervision.

In the technical and further education (TAFE) graduate destination survey for 1997 (GDS), also compiled by NCVER, graduates working in this industry rated their TAFE course as less relevant to their current job than the graduates in all industries. They rated most aspects of their course very similar to the rating for all graduates, with the exception of a lower rating for how well the course reflected industry practice.

An industry snapshot

In 1994–1995 there were 28 200 businesses recorded in the industry, representing about 3% of all businesses in Australia. All but about 1000 were small businesses. Labour costs and earnings per employee in the industry are low—in 1993–1994 the industry had the third lowest labour costs of all industry sectors at about $20 000 per person per annum. The industry's gross domestic product (GDP) accounts for a little over 2% of total Australian GDP.

Australian governments are involved significantly in the film, television and radio sector both in a regulatory role and, especially in the case of films, in financial support for the Australian film industry through the Film Finance Corporation, which has assisted in financing some of Australia's most successful films.

Support for the sports sector is provided through the Australian Institute of Sport, a division of the Australian Sports Commission. The institute provides scholarships and other forms of support to elite athletes, such as the athlete career and education program, and assists athletes to undertake other education in conjunction with their sports training. There are also a number of traineeships available in the sector. In addition, State and Territory governments provide a range of support services to sport within their jurisdictions.

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[2] ABS, *Australian national accounts: National income, expenditure and product*, cat.5204.0

[3] ABS, *Australian national accounts: Capital stock*, cat.5221.0

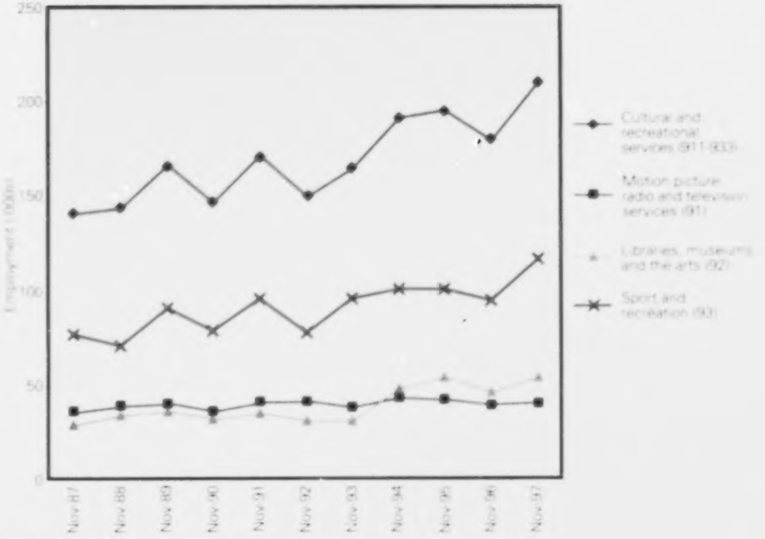
The cultural and recreational services industry is comprised of three main sub-divisions:

- motion picture, radio and television services
- libraries, museums and the arts
- sport and recreation

Over the period between 1987 and 1997, employment in the cultural and recreational services industry rose by about 54%, or by more than 74 000 jobs. Only two other industries, property and business services, and accommodation, cafés and restaurants, grew at a greater rate than cultural and recreational services.

The following chart shows the growth in the industry by sector over the period November 1987 to November 1997. In percentage terms the strongest growth has been in the libraries, museums and the arts sub-division, growing by over 87% over the period. Over the last three years this same trend has been evident, with employment growth in sport and recreation exceeding 15%, mostly over the last year, and growth in libraries, museums and the arts reaching almost 12%. Employment in the motion picture, radio and television services sub-division has, however, fallen in the last three years by more than 5%.

Chart 16.1: Employment ('000s) in cultural and recreational services, Australia, November 1987– November 1997 (ABS labour force survey)



Source: ABS, *Labour force, Australia*, cat.6203.0, 1987–1997

Most jobs in the industry are located in New South Wales and Victoria, as shown in table 16.2 below.

Table 16.2: Employment ('000s) in cultural and recreational services by State/Territory, 1995

	NSW	Vic	Qld	SA	WA	Tas	NT	ACT
Males	33.4	26.8	16.0	7.5	11.7	1.9*	2.1*	3.4*
Females	28.7	21.7	16.3	7.1	10.0	1.9*	1.4*	2.1*
Total	**62.1**	**48.6**	**32.3**	**14.6**	**21.6**	**3.8**	**3.5***	**5.4**

Note: *Subject to sampling variability too high for most practical uses
Some totals are not sum of components due to rounding

Source: ABS, *Labour force, Australia*, cat.6204.0, 1995

Jobs are distributed more or less in line with total employment on a State/Territory basis. As is shown in table 16.3, New South Wales, Queensland, South Australia and Tasmania have a slightly lower share of jobs in this industry than they have of total employment. The Territories, in particular, have a high proportion of jobs in the industry in relation to their shares of total jobs. The impact of the Sydney Olympics could be expected to see New South Wales' share of employment in this sector increase proportionally over the next few years.

Table 16.3: Share of employment in cultural and recreational services by State, by share of total jobs, 1995

State	Share of jobs in cultural and recreational services %	% employed in all industries
NSW	32.3	33.5
Vic	25.3	25.0
Qld	16.8	18.3
SA	7.6	8.0
WA	11.3	10.1
Tas	2.0	2.4
NT	1.8	1.0
ACT	2.8	2.0
Total	**100.0**	**100.0**

Source: ABS, *Labour force, Australia*, cat.6204.0, 1995

Occupational composition

The occupational profile of the cultural and recreational services industry is more weighted towards the professional and associate-professional level than the workforce in general, with over 40% of the industry's workforce in these occupational groups compared with around 28% in the total workforce.

Table 16.4: **Occupational profile, cultural and recreational services and total workforce, Australia, November 1997**

Occupation group	Cultural and recreational services %	Total workforce %
Managers and administrators	3.7	7.6
Professionals	26.2	17.4
Associate professionals	16.0	10.5
Tradespersons and related	10.2	13.2
Advanced clerical and service	2.8	4.5
Intermediate clerical/sales/service	22.5	17.1
Intermediate production/transport	2.0	9.2
Elementary clerical/sales/service	12.3	10.5
Labourers and related	4.4	10.1
Total	**100.0**	**100.0**

Source: ABS, *Labour force, Australia*, cat.6203.0, November 1997

The industry has a relatively high proportion of intermediate clerical and service workers but disproportionately low shares in the tradespersons, managers and administrators, labourers and intermediate production and transport occupations.

The industry has a slightly lower share of workers born overseas than does the total workforce (22.4% compared with 24%).

Qualifications profile

The occupational profile, which is weighted towards the professional and associate professional occupations, is not reflected in the qualifications profile of the industry. The formal qualifications held by workers in the cultural and recreational services industry quite closely, in fact, reflect the total workforce, with the exception that as is to be expected, there are fewer workers with trade qualifications and slightly more workers without a post-school qualification.

Table 16.5: **Qualifications of cultural and recreational services workers and total labour force, percentage distribution, Australia, May 1997**

	Bachelor's degree or higher	Diploma/ associate diploma	Skilled vocational	Basic vocational	Without post-school qualification
Cultural and recreational services	17.2	10.4	7.6	9.0	52.6
Total industry	**17.2**	**9.0**	**12.6**	**9.4**	**49.4**

Source: ABS, *Transition from education to work*, cat.6227.0, May 1997

The discrepancy between 42.2% of the workers in the industry being classified as professionals or associate professionals, yet only 27.6% of the workforce having matching qualifications, is quite a large one. It is possibly related to the high proportion of performing and creative artists classified as professionals, such as painters and sculptors, stage directors and musicians, together with sportspersons, who are classified as associate professionals, many of whom would not have formal qualifications.

Full details of the educational attainment by occupation from the 1996 Census of workers in this industry are provided in tables A16.3 and A16.4 in the notes at the end of this chapter.

Occupational trends and skills shortages

Over the decade, some occupations in the industry showed significant growth. The main occupations where growth above the industry average occurred were:

- production managers – up 68%
- teachers and instructors – up 129%
- painters, sculptors and related – up 76%
- sportspersons and related – up 59%
- accounting clerks – up 65%
- receptionists and information clerks – up 159%
- sales assistants – up 94%
- waiters and waitresses – up 260%
- other personal service workers – up 66%

There were several occupations in the industry that declined over the decade, as follows:

- managing supervisors (sales and service) – down 29%
- film, TV and stage directors – down 24%
- performing arts support workers – down 13%
- animal trainers – down 11%
- library and filing clerks – down 24%

It is expected that quite strong growth in employment will continue over the medium term across this industry division. Several specific factors, including the Sydney Olympics, and several developments in film production in New South Wales and Queensland should contribute to this growth. The growth of some sectors, such as casinos, could be constrained in the short term by reduced levels of overseas tourism from Asia. Monash University's Centre of Policy Studies expects the overall growth rate in this industry to be among the highest growth rates of any Australian industry sector, forecasting an average annual growth of about 3.7% up to 2003–2004.

Most employers in the cultural and recreational services industry, when surveyed in the 1997 ESS, believed that there were sufficient vocational education and training (VET) graduates to meet their needs. The minority of respondents who identified shortages, 26.7% of the surveyed employers in the industry, generally nominated the professional area as the largest area of skills shortages, followed by the management/administration area.

In 1997 the national industry training advisory body (ITAB), CREATE Australia, which later split into two bodies called Culture Research Education and Training Enterprise Australia and National Recreation ITAB, reported that a:

. . . number of skills shortages exist in cultural and recreation industries around Australia. There is a severe skill shortage of jockeys in non-metropolitan Queensland and Western Australia. Overall there is a national shortage of track work riders. There is also the following moderate skills shortage in Queensland: farriers (trade); television camera operators and production crew personnel; festival and events organisers; film production crew personnel; and skilled museum workers.

In the Northern Territory there are skills shortages in graphic art and design, including interpretive artists and designers. In Western Australia there is a severe skills shortage of multimedia/digital practitioners.

Age distribution

The cultural and recreational services industry has a relatively young workforce, with 53.9% aged under 35. By contrast, only 43.6% of the workforce across all industries is aged under 35. With the high rate of employment growth expected in this sector, it is likely that this youthful bias should continue for some years.

Table 16.6: Age of cultural and recreational services industry workforce, number, Australia, November 1997

	Age group						Total
	15–19	20–24	25–34	35–44	45–54	55+	
No. in cultural and recreational services ('000s)	21.2	29.6	62.4	43.9	32.6	20.6	210.3
% in cultural and recreational services	10.1	14.1	29.7	20.9	15.5	9.8	100.0
% in total workforce	**6.9**	**11.5**	**25.2**	**25.6**	**21.1**	**9.8**	**100.0**

Source: ABS, *Labour force, Australia*, cat.6203.0, November 1997

Hours of work and earnings

Over 40% of the workers in the cultural and recreational services industry are part timers, the third highest level of part-time work among all the industry divisions behind accommodation and retailing. Average hours worked per employee are, accordingly, very low at 30.5 hours per week—the second lowest of the industry divisions, ahead only of health and community services.

Nearly 28% of the employees work 15 hours or less per week. Again, it should be kept in mind that this figure refers only to those for whom their main job is in this sector, and does not include those working in other industries who are also engaged, to a lesser degree, in the cultural and recreational services industry.

In 1996 average adult non-managerial full-time weekly earnings in the sector were $659, well below the all-industry average of $683 prevailing at that time. Females in this category earned $631 per week compared with male earnings of $676.

Part-time employees averaged $181, again well below the all-industry part-time average of $253, but no doubt influenced by the high proportion of very short hours worked in the sector.

Table 16.7: Cultural and recreational services employment, by sex and hours worked, Australia, November 1997

	Full-time ('000s)		Part-time ('000s)		Total ('000s)	
	No.	%	No.	%	No.	%
Males	77.5	61.9	32.1	37.7	109.6	52.1
Females	47.7	38.1	53.0	62.3	100.7	47.9
Total	**125.2**	**100.0**	**85.1**	**100.0**	**210.3**	**100.0**

Source: ABS, *Labour force, Australia,* cat.6203.0, November 1997

- The cultural and recreational services industry is a rapidly growing industry with a relatively young workforce.
- The sports area has been responsible for most of the jobs growth. However, in percentage terms employment in the libraries, museums and the arts sub-division rose even more strongly—by about 87% since 1987.
- The industry has a workforce with a relatively low level of formal post-school qualifications, but a relatively high proportion of workers classified in the professional and associate professional occupational groups.
- The emergence of new computer-based technologies is having an important impact on skills in some areas of the creative arts.

Training in cultural and recreational services

Training for the cultural and recreational services industry occurs across a wide range of institutions both in the public and private sectors, and because of the diversity of activities included within this industry, there is a wide variety of courses and fields of study relevant to the sector. In some sectors, such as the visual arts, there is considerable government funding provided while other sectors such as in the music recording and radio and television broadcasting sectors, there is considerably greater private training activity.

Government funding to the industry is directed through both the VET sector and through higher education funding. In the film, television and multimedia industry there are two specialist training schools: the Australian Film, Television and Radio School at North Ryde in Sydney, and the VCA School of Film and Television in Melbourne.

At the national level, the Australian National Training Authority (ANTA) uses the training area category of arts, entertainment, sports and recreation as representing the main area under which specific VET-sector training for the industry occurs. In 1995, 5.1% of total government-funded training activity occurred under this category, rising to an estimated 5.4% in 1996. This translates to the highest level of training support per person employed in the industry of all training areas.

Training statistics covering enrolments are categorised on a different basis to the ANTA training area category. Under the 'field of study' category there is a classification of arts, humanities and social sciences, while under the 'discipline group' category there is a category of visual and performing arts. As the latter appears to be more specifically related to this industry, the following comments are based on that categorisation.

In 1996 there were 269 790 module enrolments in visual and performing arts modules, representing about 3.25% of total module enrolments. (Enrolments in the broader field of study category—arts, humanities and social sciences—accounted for about 7.7% of total course enrolments.)

For the same year there were almost 13 million module annual hours delivered in the visual and performing arts discipline, representing over 4.5% of total hours of government-funded training delivered. About 63% of these training hours were delivered to female students who made up about 62% of enrolments in this discipline.

Employer satisfaction with VET

At the 1997 ESS, 162 employers in the cultural and recreational services industry were interviewed. Their mean overall satisfaction with providers of VET was equal to the mean for all industry responses—a rating of 6.7 on a 10-point scale.

Responses from employers in the industry varied markedly between the States and Territories. The highest satisfaction rating was given by employers in South Australia and Tasmania, a score of 7.4. The lowest scores were recorded in the Territories, with the Northern Territory employers giving a low 5 and in the Australian Capital Territory, 6.2.

When asked in that survey to nominate the areas of VET provision that they regarded as most in need of improvement, the highest ratings were given to:

- graduates' work skills – 19.8%
- graduates' work ethic – 17.8%
- the ability to work and cope with setbacks without supervision – 11.7%

VET graduates in cultural and recreational services

In the 1997 TAFE GDS, there were responses received from nearly 61 000 TAFE graduates of whom 1089, or 2.5%, were working in the cultural and recreational services industry when they were surveyed. In the previous GDS conducted in 1995, only 2% of graduates were working in the sector.

In the 1997 survey about 62% of the graduates working in the industry already had a job by the time they graduated. At the other end of the spectrum, over 9% had taken more than three months to find their job. A smaller proportion of graduates working in the cultural and recreational services industry were working full time than all graduates surveyed, mirroring the industry's generally high level of part-time work. Only 54.5% were employed full time, compared with 66.6% of all surveyed graduates. Of those working full time, their job at the time of the survey was much less likely to be their first full-time job than all surveyed graduates.

Graduates were asked to rate the overall relevance of their course of study to their current employment. Graduates working in the cultural and recreational services industry gave a relatively low rating—with 42.1% giving a 'highly relevant' rating, as against 49.3% of all surveyed graduates giving a similar rating. This proportion scoring their training as highly relevant was down on the 1995 survey of TAFE graduate destinations. That survey saw a 47% 'highly relevant' rating from graduates working in the cultural and recreational services industry. Only 68.5% of graduates in the sector in the 1997 survey gave either a 'highly relevant' or 'some relevance' rating to their studies, compared with 74.5% of all graduates giving these ratings. On this latter ranking, the cultural and recreational services graduates gave their course the fourth lowest rating of the 17 industries covered.

When questioned in relation to specific aspects of their courses, graduates working in cultural and recreational services tended to provide ratings very close to all those employed. The only rating to be more than two percentage points from average was the relatively high rating given on the issue of how well the course content reflected industry practice. On the 10-point scale used, 75.2% of respondents working in the sector gave a score of 7 or more, compared with 72.2% of all respondents. As with almost all industries, the lowest rating was given to the provision of information about careers and jobs in the industry, although the 43.1% giving this item a rating of 7 or more was a little better than the overall response of 41.1%.

Most of the graduates working in the cultural and recreational services industry had undertaken their TAFE studies for vocational reasons. The following table shows the motivation of graduates for doing their course, together with the proportion saying that they had either fully or partly achieved their aim.

Table 16.8: Reasons for doing course by achievement of outcome, cultural and recreational services industry

Motivation	Number	% fully or partly achieving aim
Get a job	314	76.4
Try for different career	170	74.7
Get better job/promotion	150	72.0
A requirement of job	97	96.9
Get extra skills for job	152	98.7
Get into other course	51	90.2
Interest/personal development	135	93.3

Source: NCVER, *TAFE graduate destination survey 1997: National report*

Over 48% of the graduates working in the industry were in New South Wales.

The graduates in the industry most commonly had obtained a certificate (other), 23.7%, or an associate diploma, 18.5%. This was the second highest proportion of associate diploma graduates entering an industry (after finance and business services).

Graduates surveyed in the 1997 TAFE GDS who were working in the cultural and recreational services industry were among the lower-earning graduates reflecting the higher level of part-time work in this industry. On average, they earned $388 per week. Average full-time earnings were $517, with the average for males $528 and, for females, $505. This male-female difference was less than for most industries.

Employer support for training

Employers in the cultural and recreational services industry have not generally been major supporters of structured industry-based training. At the 1996 (September quarter) employer training expenditure survey, employers in this sector were the third lowest spenders on structured training per employee, after accommodation, cafés and restaurants, and retailing, out of all 17 industry divisions. In that survey their spending per employee was $103, against an all-industry average of $185.

Only 10% of employers in the sector provided structured training, as against about 18% across all industry sectors. Hours of structured training provided per employee at 2.77 hours was also the second lowest of all sectors, ahead of only the accommodation, cafés and restaurants industry (2.4 hours), and well below the all-industry average of 4.91 hours.

Generally, these figures represented a decline in the industry's training participation since the 1993 survey, conducted when the Commonwealth's Training Guarantee legislation was in operation. In 1993, 14% of employers in the industry provided training, averaging 2.84 hours per employee. Expenditure on structured training per employee in 1993 was $125, indicating about a 17% overall reduction in training expenditure over the three years to 1996.

The recently released employer training practices survey of February 1997 shows a somewhat better outcome, although the sector was still the second lowest in the provision of structured training and below average in the provision of unstructured training. The survey showed that during the previous 12 months, 50% of all employers in the cultural and recreational services industry did not provide either structured or unstructured training. Two-thirds of employers in the industry believed that their employees were already adequately trained and, therefore, did not need further training.

The survey also revealed that 42% of employers in the cultural and recreational services industry used TAFE as one of their training providers, ahead of private providers, used by 39%, and 37% using industry associations. This usage of TAFE was slightly below the all-industry usage of 43%.

In the 1997 TAFE GDS, about 47% of the graduates who were employed in the final semester of their course received some form of support from their employer, most commonly paid fees or paid time off. This proportion was a little below the all-industry average of 51% of students receiving support from their employer.

Some training issues in cultural and recreational services

- How can the industry's contribution to training be increased? Should government funding be dependent on a return to at least the levels pertaining in 1993?
- How can the provision of information on careers and jobs be improved?
- How should the training needs of those working in this industry as volunteers or part-timers be addressed? Do government funding mechanisms undervalue the needs of persons in these categories?
- Will New Apprenticeships help to improve the training culture in the industry?
- How can the competency-based approach to training on which the VET system is based be reconciled with the artistic values of many of those working in the creative arts part of this industry that hold that many aspects of artistic merit cannot be expressed in competency-based training (CBT) terms?

The national ITAB has raised the following key issues in its 1997 training plan:

- There is an urgent industry-wide need for training in new and emerging technologies, and in business and administrative skills.
- More entry-level training and upskilling of the existing workforce in the recreational sector is required.
- There is a need for New Apprenticeships that offer more flexible models of training to suit the unique characteristics of the visual arts, crafts and design areas.
- More flexible delivery arrangements for people living in remote and isolated communities are required.

Notes

The following table is extracted from the ANTA resource allocations for 1997 document, available at their website. It shows the planned allocations of government-funded training between the ANTA-defined 'training areas' in terms of 'annual hours curriculum' (AHC).

Table A16.1: Key national shifts in activity between 1996 revised estimates and 1997 projected activity (AHC '000s)

Industry training area	1996 revised	1997 projected	Total increase	Total increase as % of 1996 revised	% of overall increase
Category A					
Arts, Entert, Sports and Rec	11 408	11 928	520	4.6	5.5
Automotive	8 221	8 576	355	4.3	3.7
Building and Construction	18 785	19 009	224	1.2	2.4
Comm Services, Health and Ed	20 910	22 382	1 471	7.0	15.5
Finance, Banking and Insurance	3 420	3 468	48	1.4	0.5
Food Processing	2 454	2 851	396	16.1	4.2
TCF and Furnishings	5 714	5 813	100	1.7	1.0
Communications	1 883	1 963	80	4.3	0.8
Engineering and Mining	15 654	16 607	952	6.1	10.0
Primary Industry	11 874	12 217	343	2.9	3.6
Process Manufacturing	397	479	82	20.6	0.9
Sales and Personal Service	6 527	6 752	225	3.4	2.4
Tourism and Hospitality	16 707	18 151	1 444	8.6	15.2
Transport and Storage	1 686	1 851	164	9.8	1.7
Utilities	11 898	12 145	247	2.1	2.6
Category B					
Business and Clerical	42 412	43 117	705	1.7	7.4
Computing	11 969	12 641	672	5.6	7.1
Science, Technical and Other	6 727	6 870	143	2.1	1.5
Category C					
Gen Education and Training	40 046	41 212	1 166	2.9	12.3
Unallocated	622	779	157	25.2	1.6
Total	**239 316**	**248 810**	**9 494**	**4.0**	**100.0**

Note: TCF – textiles, clothing and footwear

Source: Publications, *ANTA Resource Allocations 1997*, <www.anta.gov.au>

Table A16.2: Employed persons by occupation in the cultural and recreational services industry, 1987 and 1996

Occupation (ASCO 4-digit)	1987	1996	Change 1987 to 1996	
				Average annual
	('000s)	('000s)	('000s)	%
1305 Production managers	2.2	3.7	1.5	6.1
1599 Other managing supervisors (sales and service)	8.7	6.2	-2.5	-3.8
2505 Extra-systemic teachers and instructors	5.6	12.8	7.2	9.9
2801 Painters sculptors and related professionals	2.5	4.4	1.9	6.7
2807 Journalists	3.3	4.0	0.7	2.2
2811 Film television and stage directors	3.8	2.9	-0.9	-3.0
2815 Musicians composers and related professionals	6.3	6.4	0.1	0.2
3903 Performing arts support workers	6.0	5.2	-0.8	-1.6
3915 Sportspersons and related workers	5.9	9.4	3.5	5.5
4931 Animal trainers	3.6	3.2	-0.4	-1.3
5101 Office secretaries and stenographers	3.2	3.8	0.6	2.0
5301 Accounting clerks	4.3	7.1	2.8	5.9
5401 Library and filing clerks	4.2	3.2	-1.0	-3.1
5601 Receptionists and information clerks	2.2	5.7	3.5	11.5
6301 Sales assistants	3.2	6.2	3.0	7.9
6405 Ticket salespersons	6.4	8.3	1.9	3.0
6505 Waiters and waitresses	1.0	3.6	2.6	15.8
6699 Other personal service workers	3.2	5.3	2.1	5.9
Other occupations	60.5	80.2	19.7	3.3
Total all occupations	**136.1**	**181.6**	**45.5**	**3.4**

Note: As estimates of less than 3500 are subject to high statistical error, they are listed against specific occupations only where there was a higher estimate in either 1987 or 1996. Where estimates of less than 3500 were recorded for both 1987 and 1996, they are included in the 'other occupations' category.

Australian Standard Classification of Occupations (ASCO)

Source: ABS labour force survey, unpublished data

Table A16.3: Educational attainment of employed persons by industry, occupation (1-digit ASCO) and type of post-school qualification at 1996 Census

Cultural and recreational services	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
ASCO code and occupation									
1 Managers and Administrators	4 591	841	730	1 091	589	7 842	871	6 294	15 007
2 Professionals	14 764	3 000	1 999	2 066	1 292	23 121	2 367	15 580	41 068
3 Associate Professionals	3 834	1 150	1 744	3 279	1 161	11 168	2 032	16 873	30 073
4 Tradespersons and Related Workers	1 001	532	619	4 621	672	7 445	1 143	8 877	17 465
5 Advanced Clerical and Service Workers	406	222	227	112	541	1 508	602	2 882	4 992
6 Intermediate Clerical, Sales and Service Workers	4 068	1 237	1 594	2 102	2 132	11 133	3 142	23 347	37 622
7 Intermediate Production and Transport Workers	141	53	71	493	114	872	223	2 398	3 493
8 Elementary Clerical, Sales and Service Workers	1 129	321	434	875	515	3 274	1 160	13 322	17 756
9 Labourers and Related Workers	314	142	169	850	257	1 732	673	7 039	9 444
0 Inadequately described	163	48	60	191	42	504	123	902	1 529
Not stated	39	7	17	37	13	113	107	386	606
Not applicable	–	–	–	–	–	–	–	–	–
Total	**30 450**	**7 553**	**7 664**	**15 717**	**7 328**	**68 712**	**12 443**	**97 900**	**179 055**

Source: ABS, 1996 Census of population and housing

Table A16.4: Educational attainment of employed persons by industry, occupation (3-digit ASCO) and type of post-school qualification at 1996 Census

Cultural and recreational services ASCO code and occupation	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
100 Managers and Administrators nfd	365	81	47	168	69	730	135	890	1 755
110 Generalist Managers nfd	0	0	0	0	0	0	0	0	0
111 General Managers and Administrators	714	124	101	174	85	1 198	136	959	2 293
119 Miscellaneous Generalist Managers	27	12	11	67	9	126	15	85	226
120 Specialist Managers nfd	56	13	10	8	7	94	15	68	177
121 Resource Managers	573	98	117	55	37	880	81	472	1 433
122 Engineering, Distribution and Process Managers	270	53	67	91	57	538	48	370	956
123 Sales and Marketing Managers	497	89	63	108	72	829	95	752	1 676
129 Miscellaneous Specialist Managers	2 055	353	273	348	232	3 261	320	2 501	6 082
131 Farmers and Farm Managers	34	18	41	72	21	186	25	196	407
200 Professionals nfd	265	36	24	23	12	360	34	203	597
210 Science, Building and Engineering	0	0	0	0	0	0	0	0	0
211 Natural and Physical Science Professionals	581	30	139	145	61	956	52	381	1 389
212 Building and Engineering Professionals	333	65	117	85	34	634	41	71	746
220 Business and Information Professionals nfd	11	3	0	3	0	17	0	16	33
221 Accountants, Auditors and Corporate Treasurers	584	59	155	14	29	841	59	280	1 180
222 Sales, Marketing and Advertising Professionals	580	98	79	94	114	965	129	1 008	2 102
223 Computing Professionals	535	29	89	47	37	737	54	330	1 121
229 Miscellaneous Business and Information Profs	2 497	220	257	123	158	3 255	201	995	4 451
230 Health Professionals nfd	0	0	0	0	0	0	0	0	0
231 Medical Practitioners	25	0	3	0	0	28	3	3	34
232 Nursing Professionals	57	62	0	0	7	126	11	5	142
238 Miscellaneous Health Professionals	98	15	4	0	3	120	9	17	146
240 Education Professionals nfd	3	0	0	0	0	3	0	4	7
241 School Teachers	194	51	21	11	8	285	22	142	449

Cultural and recreational services	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
242 University and Vocational Education Teachers	290	23	11	9	5	338	16	36	390
249 Miscellaneous Education Professionals	458	162	82	63	48	813	157	808	1 778
250 Social, Arts and Miscellaneous Professionals nfd	14	4	3	3	0	24	3	4	31
251 Social Welfare Professionals	203	31	30	21	17	302	25	117	444
252 Miscellaneous Social Professionals	386	23	22	9	10	450	19	73	542
253 Artists and Related Professionals	6 842	1 961	878	1 331	679	11 691	1 442	10 707	23 840
254 Miscellaneous Professionals	807	127	87	86	68	1 175	89	380	1 644
300 Associate Professionals nfd	41	7	11	21	8	88	16	100	204
310 Science/Engineering and Related Assoc Profs nfd	26	4	14	24	8	76	11	24	111
311 Medical and Science Technical Officers	79	11	20	21	15	146	6	45	197
312 Building/Engineering Associate Professionals	115	76	274	486	101	1 052	65	279	1 396
320 Business and Administrative Assoc Profs nfd	0	0	0	0	0	0	0	3	3
321 Finance Associate Professionals	84	14	35	40	11	184	35	388	607
329 Miscellaneous Business/Admin Assoc Profs	907	221	210	300	262	1 900	289	2 131	4 320
330 Managing Supervisors (Sales and Service) nfd	0	0	3	3	3	9	0	22	31
331 Shop Managers	94	31	24	86	34	269	73	545	887
332 Hospitality and Accommodation Managers	137	75	53	601	59	925	133	858	1 916
339 Miscellaneous Mngr. Supervisors (Sales and Service)	860	286	246	717	280	2 389	503	4 496	7 388
340 Health and Welfare Assoc Professionals nfd	0	0	0	0	0	0	0	0	0
341 Enrolled Nurses	7	5	7	0	16	35	5	11	51
342 Welfare Associate Professionals	35	8	6	5	5	59	4	39	102
349 Miscellaneous Health and Welfare Associate Profs	19	12	8	4	6	49	11	23	83
390 Other Associate Professionals nfd	0	0	0	0	0	0	0	3	3
391 Police Officers	3	0	0	3	0	6	0	28	34
399 Miscellaneous Associate Professionals	1 425	397	833	967	354	3 976	877	7 881	12 734
400 Tradespersons and Related Workers nfd	20	11	32	133	10	206	25	157	388

Cultural and recreational services	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
410 Mechanical/Fabrication Engineering Trades nfd	0	0	3	0	0	3	0	0	3
411 Mechanical Engineering Tradespersons	3	3	5	194	10	215	16	115	346
412 Fabrication Engineering Tradespersons	11	9	7	399	19	445	46	220	711
421 Automotive Tradespersons	4	3	6	176	3	192	15	109	316
431 Electrical and Electronics Trades	85	45	128	764	89	1 111	120	618	1 849
440 Construction Tradespersons nfd	0	0	0	0	0	0	0	0	0
441 Structural Construction Trades	26	7	13	351	17	414	27	180	621
442 Final Finishes Construction Trades	13	6	3	183	0	205	37	149	391
443 Plumbers	0	0	3	94	0	97	6	20	123
451 Food Tradespersons	19	7	11	106	17	160	39	346	545
460 Skilled Agricultural/Horticultural Workers nfd	0	0	0	0	0	0	0	0	0
461 Skilled Agricultural Workers	37	36	34	288	32	427	157	1 654	2 238
462 Horticultural Tradespersons	61	49	119	1 088	160	1 477	181	1 932	3 590
490 Other Tradespersons and Related Workers nfd	0	0	0	30	0	30	0	3	33
491 Printing Tradespersons	28	11	4	82	6	131	12	77	220
492 Wood Tradespersons	4	4	0	24	0	32	3	25	60
493 Hairdressers	3	0	0	48	3	54	5	10	69
494 Textile, Clothing and Related Trades	34	33	19	46	24	156	29	115	300
498 Miscellaneous Tradespersons and Related Wkrs	654	305	233	615	282	2 089	426	3 146	5 661
500 Advanced Clerical and Service Workers nfd	3	0	0	0	0	3	0	7	10
511 Secretaries and Personal Assistants	253	167	150	74	484	1 128	497	2 101	3 726
590 Other Advanced Clerical and Service Wkrs nfd	0	0	0	0	0	0	0	0	0
591 Advanced Numerical Clerks	117	46	58	23	51	295	85	671	1 051
599 Miscellaneous Advanced Clerical and Service Wkrs	32	8	18	15	6	79	20	103	202
600 Intermediate Clerical, Sales and Service Wkrs nfd	28	10	8	17	17	80	29	142	251
610 Intermediate Clerical Workers nfd	6	0	0	0	5	11	0	15	26
611 General Clerks	370	114	117	106	240	947	313	2 592	3 852

Cultural and recreational services	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
612 Keyboard Operators	113	40	52	44	106	355	134	1 103	1 592
613 Receptionists	179	81	98	85	219	662	256	1 890	2 808
614 Intermediate Numerical Clerks	137	35	90	35	63	360	94	851	1 305
615 Material Record and Despatch Clerks	96	29	35	66	47	273	53	631	957
619 Miscellaneous Intermediate Clerical Workers	655	126	257	187	216	1 441	280	2 632	4 353
621 Intermediate Sales and Related Workers	238	88	80	169	97	672	133	1 279	2 084
630 Intermediate Service Workers nfd	11	4	3	10	4	32	13	84	129
631 Carers and Aides	111	74	99	129	108	521	168	1 388	2 077
632 Hospitality Workers	298	116	220	296	220	1 150	382	3 438	4 970
639 Miscellaneous Intermediate Service Workers	1 830	520	534	957	790	4 631	1 286	7 302	13 219
700 Intermediate Production and Transport Wkrs nfd	3	0	3	11	3	20	8	34	62
710 Intermediate Plant Operators nfd	3	0	0	23	3	29	4	62	95
711 Mobile Plant Operators	5	0	6	62	8	81	21	310	412
712 Intermediate Stationary Plant Operators	39	9	14	77	16	155	42	401	598
720 Intermediate Machine Operators nfd	16	7	13	39	12	87	31	281	399
721 Intermediate Textile/Clothing/Related Mach Ops	4	3	5	0	4	16	3	20	39
729 Miscellaneous Intermediate Machine Operators	20	8	3	23	9	63	13	112	188
731 Road and Rail Transport Drivers	20	8	12	150	25	215	56	695	966
790 Other Intermediate Prod'n and T'port Wkrs nfd	0	0	0	0	3	3	0	0	3
791 Intermediate Mining and Construction Workers	0	3	3	40	12	58	9	50	117
799 Misc Intermediate Prod'n and Transport Wkrs	30	18	15	68	21	152	38	433	623
800 Elementary Clerical, Sales and Service Wkrs nfd	17	9	8	8	12	54	15	267	336
811 Elementary Clerks	206	55	102	165	144	672	251	3 057	3 980
820 Elementary Sales Workers nfd	7	3	4	3	3	20	10	95	125
821 Sales Assistants	305	82	115	155	150	807	367	3 881	5 055
829 Miscellaneous Elementary Sales Workers	298	86	109	151	134	778	226	2 850	3 854
831 Elementary Service Workers	295	86	96	393	72	942	291	3 172	4 405
900 Labourers and Related Workers nfd	11	1	4	57	5	80	39	429	548

Cultural and recreational services	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
911 Cleaners	66	40	31	168	55	360	182	2 042	2 584
920 Factory Labourers nfd	0	3	0	0	0	3	0	4	7
921 Process Workers	8	0	3	16	4	31	5	130	166
922 Product Packagers	12	3	3	0	3	21	11	92	124
990 Other Labourers and Related Workers nfd	0	0	0	5	0	5	0	21	26
991 Mining, Construction and Related Labourers	8	0	12	67	9	96	27	314	437
992 Agricultural and Horticultural Labourers	43	32	43	207	84	409	168	1 794	2 371
993 Elementary Food Preparation and Related Wkrs	50	18	20	48	27	163	92	898	1 153
999 Miscellaneous Labourers and Related Workers	118	44	54	281	70	567	147	1 315	2 029
099 Inadequately described	163	48	60	191	42	504	123	902	1 529
Not stated	39	7	17	37	13	113	107	386	606
Not applicable	–	–	–	–	–	–	–	–	–
Total	**30 451**	**7 549**	**7 669**	**15 715**	**7 329**	**68 713**	**12 437**	**97 901**	**179 051**

Note: nfd – not further defined

Source: ABS, 1996 Census of population and housing

17 Personal and other services

In November 1997 there were 343 100 persons employed in the industry, making it the sixth smallest of the 17 industry divisions in numbers employed.[1] Its employment accounts for about 4% of jobs in Australia. The industry is a mixture of public and private sector employment. The main public sector areas of employment in the industry are in policing and corrective services. Just under half, 49%, of those in the industry are in the personal services sub-division, about 47% are in the other services sub-division, while private households employing staff account for the remaining 4%. Hairdressers and beauty therapists make up over a quarter of the personal services employment, while police make up nearly a third of the other services.

In 1994–1995 there were about 55 900 businesses classified by the Australian Bureau of Statistics (ABS) as falling within this industry, making up over 6% of all businesses in Australia. The operating profits generated by businesses in the personal and other services industry were, according to the ABS business operations and industry performance data, the lowest of all 17 divisions.[2] In 1995–1996 the industry's gross product was just over $7.5 billion, again the lowest of all industry divisions.

The economic factors governing these sub-divisions are obviously as different as the activities they encompass. The *personal services* area is dominated by small, private sector businesses operating in often very competitive environments. As with the retailing industry, demand for many of their services can fluctuate in line with consumer sentiment.

The *other services* area is dominated by the public sector police, fire and corrective services. Demand for these services is less dependent on short-term economic cycles and is more related to State/Territory government spending decisions. Charts A17.1, A17.2 and A17.3 in the notes at the end of this chapter show that provision of some of these services is not uniform throughout Australia, with per capita expenditure on police and corrective services varying widely across the States and Territories.

Employment in the other parts of *other services*, in religious organisations, unions, business, professional and public interest organisations, is driven by a wide range of factors, including cultural and social factors beyond the scope of the analysis of this chapter.

Much of the skilled training relevant to this industry is not undertaken within the vocational education and training (VET) sector. Training of police, fire fighters, prison staff, union staff and members of religious organisations is normally undertaken in house or, in the case of some religious training, in certain higher education facilities. The major involvement of the VET sector in this industry is through the training of hairdressers, beauty therapists and gardeners.

At the major occupational group level, the tradespersons and related category makes up the largest group of workers in this industry, followed by those classified as associate professionals. Only about 60% of those working in the tradespersons and related category, however, possess formal qualifications at the skilled trade level or above. Only about 38% of those working at the associate professional level have any formal qualifications.

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[1] ABS, *Labour force, Australia*, cat.6203.0, November 1997

[2] ABS, *Business operations and industry performance*, Australia, cat.8140.0

The industry has a slight majority of males who make up 52.6% of the industry's workforce and has an above-average proportion of part-time jobs (30%). It has a below-average proportion of overseas-born workers and an above-average proportion of employers and own-account workers, as opposed to employees.

Table 17.1: Employment ('000s) in personal and other services by sub-division, by gender and type of employment, Australia, November 1997

Industry sub-division	Males	Females	Full-time	Part-time	Total
Personal services	*69.3*	*100.0*	*103.9*	*65.4*	*169.4*
Personal and household goods hiring	6.8	9.3	7.6	8.5	16.1
Other personal services	62.6	90.7	96.4	56.9	153.3
Other services	*109.2*	*51.3*	*134.1*	*26.5*	*160.6*
Religious organisations	18.0	10.0	17.8	10.2	28.0
Interest groups	17.5	20.1	27.4	10.2	37.6
Public order and safety services	73.7	21.2	88.9	6.1	95.0
Private households employing staff	*2.0**	*11.2*	*3.7*	*9.5*	*13.2*
Total	**180.6**	**162.6**	**241.6**	**101.5**	**343.1**

Note: *Subject to sampling variability too high for most practical uses

Source: ABS, *Labour force, Australia*, cat.6203.0, November 1997

Employment in the industry is slightly more concentrated outside the large employing States of New South Wales, Victoria and Queensland. The industry's age structure closely matches that of the total Australian workforce, as does the proportion of the industry's workforce holding a post-school qualification.

Because of the change in industry classification over the period 1987 to 1996 from the Australian Standard Industry Classification (ASIC) to the Australian and New Zealand Standard Industry Classification (ANZSIC), some of the occupational changes in the industry shown in the tables in the notes at the end of this chapter are overstated. These are discussed in the section on occupational trends and skills shortages later in this chapter. Overall, employment in the industry grew by 26.5% between 1987 and 1996, well ahead of the total employment growth of 16.9%.

Forecasts from the Monash model show employment growth in this industry slowing over the next five years, with low or negative growth in the number of police and hairdressers, two of the major occupations in this industry.

An industry snapshot

The personal and other services industry is a collection of quite diverse businesses and services. The industry has three sub-divisions which are:

i *personal services*, covering a range of activities that have much in common with retailing, such as hairdressers and beauty salons, video hire outlets, dry cleaners, funeral directors, film processing outlets and photographic studios

ii *other services*, covering police, fire services and prisons, together with religious, business and labour organisations

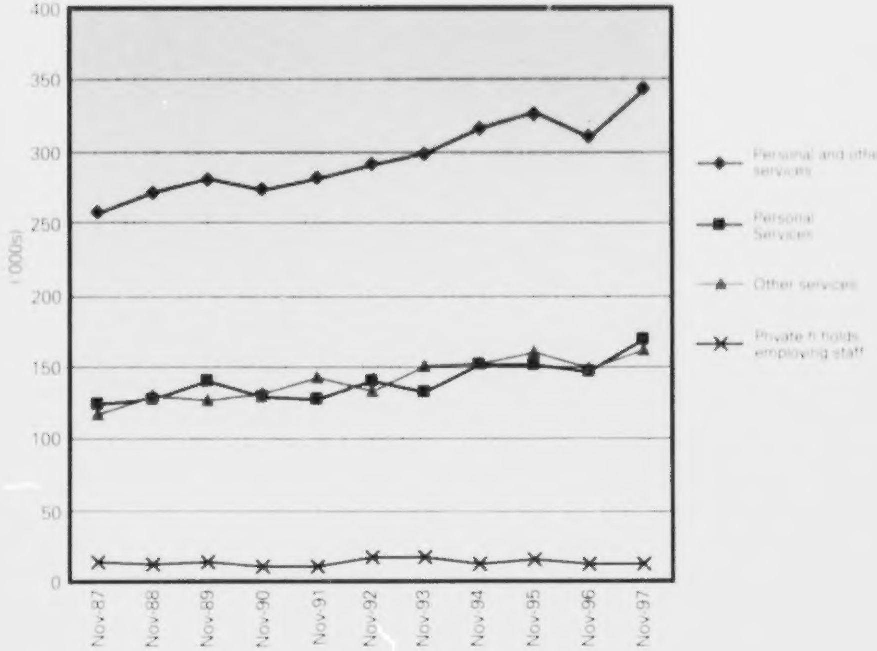
iii *private households employing staff*

The personal and other services industry is a collection of a diverse range of businesses and services. The 'personal services' part of the industry is comprised of a number of activities that have much in common with the retail industry. These include video and other household goods hiring outlets, hairdressing salons, dry cleaners, film processing outlets and photographic studios, funeral directors, crematoria and cemeteries, and gardening services.

The industry also includes persons employed in religious organisations, unions and in business and professional organisations and in other interest groups, such as political parties or environmental groups. The two other areas to make up the industry are organisations concerned with public order and safety—such as police, fire brigades, corrective services and waste disposal—and private households employing staff.

In November 1997 there were 343 100 persons employed in the industry, making it the sixth smallest of the 17 industry divisions in numbers employed. Its employment accounts for about 4% of jobs in Australia. Just under half, 49%, of those in the industry are in the personal services sub-division, about 47% are in the other services sub-division, while private households employing staff account for the remaining 4%. Hairdressers and beauty therapists make up over a quarter of the personal services employment, while police make up nearly a third of the other services.

Chart 17.1: Employment trends in personal and other services, 1987–1997 (ABS labour force survey)



Source: ABS, *Labour force, Australia*, cat.6203.0, 1987–1997

The employment level in the industry has grown quite strongly, by nearly 34%, and consistently since 1987. Employment in both the personal services sub-division and in the other services sub-division has grown over the last decade by a little over one-third. Employment in private households employing staff has remained more or less static over the same period. Total employment across all industries over the same period grew by about 18.6%. A detailed analysis of changes in employment by occupation over the last decade is provided later in this chapter.

In 1994–1995 there were about 55 900 businesses classified by the ABS as falling within this industry, making up over 6% of all businesses in Australia. The operating profits generated by businesses in the personal and other services industry were, according to the ABS business operations and industry performance data, the lowest of all 17 divisions.[3] In 1995–1996 the industry's gross product was just over $7.5 billion, again the lowest of all industry divisions.

The industry is a mixture of public and private sector employment. The main public sector areas of employment in the industry are in policing and corrective services. The following quotes from the recent Productivity Commission report, *Government service delivery 1998*, summarise these two areas of activity in Australia.

> *In 1996–1997, there were 111 prison and periodic detention facilities across Australia. These included six privately operated facilities in four jurisdictions (NSW, Victoria, Queensland and SA) . . . A total of 1862 prisoners, or 11 per cent of the total prisoner population (excluding periodic detainees) were held in private facilities across Australia in 1996–1997. Publicly owned prison assets were valued at over $1900 million in 1996–1997 . . . government-operated corrective facilities employed the full-time equivalent of approximately 12 000 staff across prisons, community custody and community supervision.*[4]
>
> *Total recurrent expenditure on police across Australia was $3.6 billion in 1996–1997. Recurrent expenditure on police services in 1996–1997 varied from $430 per person in the Northern Territory to $160 per person in Queensland.*
>
> *Total police services staffing in Australia in 1996–1997 was 51 486—that is, 277 per 100 000 persons (217 were sworn police officers and 60 were civilian employees). This was slightly higher than the 1993–1994 level (271 staff per 100 000 population). Staffing levels were highest in the NT (572 per 100 000) and lowest in the ACT (232 per 100 000) in 1996–1997 (figure 5.3).*[5]

A relatively high proportion of the industry's workforce, 22.4%, is classified as employers or own-account workers. Only 15.1% of the total workforce is classified under these headings. This high proportion of own-account workers and employers would be related to the structure of the private sector part of this industry, dominated by a relatively large number of small businesses. Some of the main activities in this area are hairdressing and beauty therapy, photographic studios, developing and printing, dry cleaning and laundry services, and gardening services.

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[3] ABS, *Business operations and industry performance, Australia*, cat.8140.0

[4] Productivity Commission, *Government service delivery report 1998*, Justice chapter, pp.408–410

[5] Productivity Commission, ibid., pp.257–258

Employment characteristics of the industry

In November 1997 employment was distributed 52.6% to males and 47.4% to females, giving males a slightly lower share of employment in the industry than in the labour force overall, which was 56.6% at that time. In recent years, employment estimates for some months have shown females in the majority in this industry.

Part-time employment, representing 29.6% of all jobs in the industry, is more prevalent in personal and other services than in the labour force as a whole, with 25.8% of all jobs being part time.

The industry has a slightly higher-than-average proportion of females than the total workforce, a slightly higher proportion of part-time employment, and a lower proportion of overseas-born workers.

As shown in table 17.2, most jobs in the industry are located in New South Wales and Victoria.

Table 17.2: Employment ('000s) in personal and other services by State/Territory, 1995

	NSW	Vic	Qld	SA	WA	Tas	NT	ACT
Males	47.5	36.9	24.8	12.8	17.4	3.2*	2.6*	2.4*
Females	48.9	31.9	26.0	13.0	16.0	3.9	2.7*	3.9
Total	**96.4**	**68.9**	**50.8**	**25.7**	**33.4**	**7.1**	**5.2**	**6.3**

Note: *Subject to sampling variability too high for most practical uses
Some totals are not the sum of components due to rounding
Source: ABS, *Labour force, Australia*, cat.6204.0, 1995

Employment in personal and other services is, however, relatively more common in the smaller States, with New South Wales, Victoria and Queensland all having a less than pro rata share of jobs in the industry, as is shown in table 17.3 below.

Table 17.3: Share of employment in personal and other services by State, by share of total jobs, 1995

State	% personal and other services	% employed in all industries
NSW	32.8	33.5
Vic	23.4	25.0
Qld	17.3	18.3
SA	8.7	8.0
WA	11.4	10.1
Tas	2.4	2.4
NT	1.8	1.0
ACT	2.1	2.0
Total	**100.0**	**100.0**

Source: ABS, *Labour force Australia*, cat.6204.0, 1995

Part of the explanation for the higher concentration of jobs in the smaller States/ Territories is shown in charts A17.1, A17.2 and A17.3 in the notes at the end of this chapter. They show higher levels of per capita spending on corrective services and policing in some of the smaller jurisdictions, especially Western Australia and the Northern Territory, compared to that of the larger States.

Table 17.4 shows the age distribution of workers in the industry. The age distribution of the industry closely matches the overall labour force.

Table 17.4: Age distribution of personal and other services workers and all employed, Australia, November 1997

	Age group						Total
	15–19	20–24	25–34	35–44	45–54	55+	
Personal and other services %	6.2	12.0	27.1	23.8	19.8	11.0	100.0
All-industry %	6.9	11.5	25.2	25.6	21.1	9.8	100.0

Source: ABS, *Labour force, Australia*, cat.6203.0, November 1997

- Personal and other services is an industry that quite closely matches the overall employment characteristics of the Australian labour market.
- The industry is a diverse collection of unrelated activities, evenly divided between the small business, private sector activities of the personal services sector and the larger organisations, often public sector, making up the other services group.
- The industry recorded the lowest gross product of any industry division in 1995-1996.
- Over the last decade, its employment growth has been higher than the Australian average. However, its growth is expected to slow over the next five years.

Occupational composition

Table 17.5 shows the occupational composition of the personal and other services industry in comparison with the total workforce. Note that the Australian Standard Classification of Occupations (ASCO) used in table 17.5 is the ASCO second edition. Analysis of occupational changes over the last decade in later sections of this chapter use the earlier ASCO first edition in order to allow comparison over a substantial time period.

The occupational profile of this industry shows a low proportion of jobs in the managers, administrators and professionals categories and a relatively high proportion of jobs in the associate professionals and trade-level occupations. The remaining occupational groups again quite closely match the overall occupational profile of the total labour force.

Table 17.5: Occupational profile personal and other services industry and total workforce, Australia, November 1997

Occupation group	Personal and other services %	Total workforce %
Managers and administrators	2.2	7.6
Professionals	12.4	17.4
Associate professionals	19.3	10.5
Tradespersons and related	20.3	13.2
Advanced clerical and service	2.4	4.5
Intermediate clerical/sales/service	16.9	17.1
Intermediate production/transport	5.1	9.2
Elementary clerical/sales/service	10.4	10.5
Labourers and related	11.0	10.1
Total	**100.0**	**100.0**

Source: ABS, *Labour force, Australia*, cat.6203.0, November 1997

In line with the occupational profile, the industry has a relatively low share of persons with university-level qualifications and an above-average share of those with a skilled vocational qualification. Table A17.4 in the notes at the end of this chapter reveals that over half of all those in the industry with a skilled vocational qualification are hairdressers. Over 11 000 of those working in management, administrative or professional/associate-professional-level jobs held skilled trade qualifications as their highest-level qualification, according to the 1996 Census data reproduced in table A17.4 in the notes at the end of this chapter.

Table 17.6: Qualifications of personal and other services industry workers, percentage distribution, Australia, May 1997

	Bachelor's degree or higher	Diploma/ associate diploma	Skilled vocational	Basic vocational	Without post-school qualification
Personal and other services	11.9	8.1	17.2	11.7	49.3
Total industry	**17.2**	**9.0**	**12.6**	**9.4**	**49.4**

Source: ABS, *Transition from education to work*, cat.6227.0, May 1997

Occupational trends and skills shortages

As noted earlier, this analysis of changes in the occupational composition of the industry uses the first edition ASCO to allow for a long perspective. Hence the comparison is made for the decade between 1987 and 1996. After 1996, occupational data are based on the newer second edition ASCO classification.

The strong growth recorded in the para-professional group in the following table is largely attributable to a big rise in the number of police in this industry division. This probably does not reflect a major increase in police numbers, however. Rather, there appears to have been a recoding of some police out of the property and business services industry between 1987 and 1996 into personal and other services, which explains much of the apparent growth. The number of prison officers grew by 5300 or 177% over the decade.

Table 17.7: Employment changes in personal and other services, major occupational groups, Australia, 1987–1996

Occupational group	Number in 1987 ('000s)	Number in 1996 ('000s)	% change over decade
Managers and administrators	10.6	14.6	37.7
Professionals	24.5	36.4	48.6
Para-professionals	28.6	53.7	87.8
Tradespersons	58.8	61.7	4.9
Clerks	37.3	36.0	–3.5
Sales and personal service	33.5	41.6	24.2
Plant operators, drivers	13.7	19.5	42.3
Labourers	45.9	56.2	22.4
Total	**252.8**	**319.8**	**26.5**

Source: ABS, *Labour force, Australia*, cat.6203.0, 1987–1996

In the professional category, much of the growth, about 9000 jobs, was among ministers of religion, a rise of 250%. This does not represent an overall increase in the number of ministers of religion. It is a result of the change in industry coding from ASIC to ANZSIC, which saw ministers of religion move from the health and community services industry under ASIC into personal and other services in the ANZSIC classification. The total number of ministers of religion (that is, across all industry classifications) still grew by a sizeable 3500 over the decade, a rise of 32%.

The number of photographers also rose in this category by about 2800 or 78%. This appears to include genuine growth in employment, as their numbers across all industries rose by about 30% over the decade.

In the trades and related occupations, gardeners rose by about 5000 jobs (75%) over the decade and nursery and gardening labourers by about 7500 or 112%. Other occupations to show strong growth over the decade were:

❖ other personal service workers	+9700 or 162%
❖ data processing machine operators	+2000 or 95%
❖ accounting clerks	+2200 or 27%
❖ receptionists and information clerks	+2600 or 54%
❖ sales assistants	+2400 or 37%
❖ truck drivers	+2400 or 83%
❖ firefighters	+2900 or 74%

(but, like police, this is the result of recoding out of property and business services into personal and other services, rather than absolute growth in the occupation. Across all industries their numbers actually declined over the decade)

Several occupations declined in numbers over the decade including:

❖ welfare para-professionals	–1000 or –29%
❖ hairdressers	–1200 or –3%
❖ other clerks	–3100 or –72%
❖ cleaners (probably resulting from outsourcing, since numbers in property and business services have risen strongly)	–1700 or –13%

The VET sector is clearly an important source of skilled workers for this industry although, like many other industries, the strongest growth over the last decade appears to have been in the professional and management areas of this industry.

In the survey on employer satisfaction with VET for 1997 (ESS), compiled by the National Centre for Vocational Education Research (NCVER), 75% of employers in the industry said the current supply of VET graduates was adequate to meet their current demand, while a relatively low 23% said that it was inadequate. Of employers surveyed across all industries, 27.5% believed that there were shortages in at least some VET areas.

Of those employers in personal and other services who identified skill shortages, more than two-thirds said the shortages existed in the trades area, while 18.5% said there were skills shortages in the sales and personal service occupations. Given the occupational structure of the industry, most of these shortages in the trades area are likely to be of hairdressers. The Department of Employment, Education, Training and Youth Affairs (DEETYA) skilled vacancy survey (SVS) shows demand for hairdressers having risen by about 13% over the last year, a little faster than demand overall. Overall employment in the industry grew quite strongly over the same period.

The national industry training advisory body, National Public Administration Industry Training Body (ITAB), covers the public sector activities of fire services, emergency services and police, which are located within personal and other services as well as the larger area of all public administration. This ITAB reported to the Australian National Training Authority (ANTA) in 1997 on a range of issues around public sector skill shortages. Their report said that:

> *Across all the industry sectors, priority areas in which skill shortages exist have been identified as including contract management; project management; service delivery, resource management (including risk management); communications and information management; and strategic human resources management.*
>
> *The increase in outsourcing service provision to other spheres of government, or to external providers, has been responsible for many of these skill shortages, particularly in the areas of contract management and service delivery.*
>
> *Public sector skill shortages are evident in areas such as change management, program evaluation and benchmarking. In addition, the increase in home-based work and the gradual phasing out of traditionally defined jobs has led to new skill requirements both for employers and for the workforce.*

In all States/Territories, critical shortages exist for workplace trainers and assessors (police) and in the areas of equal employment opportunity, and occupational health and safety (fire). High priority areas include literacy and numeracy, and fire safety (fire); and contract management (local government).

The national ITAB covering hairdressing, the Wholesale, Retail and Personal Services (WRAPS) ITAB, reported skill shortages in hairdressing, stating that 'a critical Australia-wide shortage of skilled hairdressers exists'.

Hours of work and earnings

Employment in personal and other services is relatively evenly distributed between males and females, although males predominate in the full-time jobs and females in part time. The following table shows the distribution of employment between full-time and part-time workers by sex.

Table 17.8: Personal and other services industry employment, by sex and hours worked, Australia, November 1997

	Full-time ('000s)		Part-time ('000s)		Total ('000s)	
	No.	%	No.	%	No.	%
Males	152.4	63.1	28.2	27.8	180.6	52.6
Females	89.3	36.9	73.3	72.2	162.6	47.4
Total	**241.7**	**100.0**	**101.5**	**100.0**	**343.1**	**100.0**

Note: Not all components sum to totals due to rounding

Source: ABS, *Labour force, Australia*, cat.6203.0, 1997

Males employed in the industry worked, on average, 37.9 hours per week, noticeably less than the all-industry average for males of 40.6 hours. Females worked an average of 28.9 hours per week, just below the all-industry average of 29 hours for females. Nevertheless, over 25% of the males employed in the industry work 49 hours or more per week, as do just over 10% of the females.

Average weekly full-time earnings for non-managerial workers in the industry, at $690.40, are close to the all-industry average of $683. Managerial workers in the industry, on the other hand, are among the lower paid managerial workers, earning on average $718.30, only $28 above non-managerial workers, and nearly $200 below the all-industry average for managerial workers. This is probably influenced by the large number of non-managerial public sector workers, such as police officers, earning relatively high incomes in comparison to small business owners and own-account workers elsewhere in the industry.

There is a greater disparity between male and female full-time earnings in this industry than in any other industry in Australia. In May 1996, full-time non-managerial male workers earned a weekly average of $774.10 in the industry, compared to $560.40 for females. This is likely to be explained by pronounced gender segregation in the industry. For example, nearly 83% of hairdressers are females, 86% of police are males.

- The industry has a relatively high concentration of its workforce in the trades and related, and associate professional occupations.
- The qualifications profile of the industry reflects the occupational profile with a relatively high proportion of the industry's workers holding skilled vocational qualifications.
- Some of the strongest occupational growth in the industry occurred for prison officers, photographers, gardeners and computer operators.
- There is a greater gap between male and female full-time earnings in this industry than in any other industry in Australia.
- Female TAFE graduates working full time in this industry earned only about 53% of male TAFE graduates in the industry working full time, probably as a result of pronounced occupational gender segregation.

Training in personal and other services

Because of the great diversity of activities included within this industry, it is not possible to make any reasonable estimate of the level of VET resourcing allocated to the industry as a whole. Much of the VET provision of relevance to the industry would be directed through the ANTA training area 'sales and personal service'. In 1998 this area, as a whole, was expected to receive about 3.2% of government VET resources, a good deal lower than the overall employment share of the main industries related to this training area, retailing and personal services.

Because police and corrective services are part of this industry, the training resources allocated to these areas do not generally appear as part of the allocation under the ANTA Agreement and are not generally seen as part of the VET sector.

One of the main areas of training in the industry is through the hairdressing apprenticeship. Since 1987 the number of apprentice hairdressers has declined from about 14 500 to about 9700 in 1997. On the other hand, the number of trainees in sales and personal services traineeships, some of which would be in the personal and other services industry, has grown over that period, although the numbers appear to have plateaued over recent years.

Employer satisfaction with VET

In the 1997 ESS there were 153 employers surveyed who were defined as being in the personal and other services industry.

Mean satisfaction ratings with VET across all industries ranged between 5.7 and 7 out of a possible 10. The personal and other services industry recorded a mean satisfaction level of 6.9. This was the fourth highest of all industries, behind three industries that recorded a rating of 7. When asked to score their level of satisfaction with technical and further education (TAFE) providers as part of the VET system, employers in personal and other services gave it the equal highest rating with two other industries, again 6.9.

Satisfaction ratings in the industry across the States varied between a high of 7.1 in Victoria to a low of 6 in the Australian Capital Territory.

In the ESS, employers were also asked to identify the areas in which the VET sector needed to improve its service. Two areas, in particular, stood out in the responses from the employers in this industry: 'graduates' work ethic' and 'graduates' work skills'. Across all industries the former priority was identified as the highest priority for improvement. Employers in this industry were more likely to identify shortcomings in the work skills of graduates than in employers in other industries. They were also relatively more concerned with the work ethic of graduates than the average employer.

VET graduates in personal and other services

The TAFE graduate destination survey for 1997 (GDS), also compiled by NCVER, received responses from 1908 graduates employed in the personal and other services industry at the time of the survey, representing 4.4% of all employed graduates. This was a sizeable fall from the proportion of TAFE graduates working in the industry at the equivalent 1995 survey, which saw 5.2% of graduates working in the industry. This made personal and other services the ninth largest employment destination industry for TAFE graduates in 1997, placing it as the middle-ranking industry of employment.

The surveyed graduates working in personal and other services rated their TAFE course as quite highly relevant to their employment. In fact, graduates working in the industry gave the third highest 'highly relevant' rating, 59.6%, of all employed graduates. Only graduates working in construction (68.9% giving a 'highly relevant' rating) and in health and community services (61.5%) gave higher ratings. This outcome is consistent with the generally high satisfaction ratings recorded by employers in the industry referred to previously.

Graduates were asked to rate on a 10-point scale a number of aspects of their course. The following analysis compares the proportion giving a rating of 7 or better on the 10-point scale working in personal and other services with all graduates.

As can be seen in the following table, graduates working in personal and other services rated all aspects of their course more highly than did all surveyed graduates. The pattern of satisfaction levels generally matched the responses of all graduates, although graduates in personal and other services, relative to all graduates, seemed to be particularly impressed with:

- the provision of information on choosing courses and subjects

- how well the course content reflected industry practice
- the usefulness of the course they had undertaken for enhancing their employment prospects

As with all graduates, they were least impressed with the provision of information on jobs and careers. While they gave this item a higher rating than the average for all graduates, it is still clear that this item was the most unsatisfactory aspect of their TAFE experience for them and for all surveyed graduates.

Table 17.9: Rating of course by graduates employed in personal and other services and all graduates

Issue	Personal and other services %	All employed graduates %
Instructors' knowledge	87.3	85.2
Course content reflects industry practice	76.9	72.2
Presentation of material	75.7	73.2
Quality of equipment	62.5	62.2
Sufficient equipment	61.6	60.0
Info on choosing course	63.9	58.6
Info on careers/jobs	44.1	41.1
Usefulness for job prospects	76.0	71.8
Qualification well regarded by employers	67.0	64.9
Balance instruction and practice	72.8	69.8
Assessment method understood	81.2	78.5
Time/venue convenience	77.5	75.3
Overall course quality	86.0	84.1

Source: NCVER, 1997 TAFE graduate destination survey, unpublished data

Employment outcomes

As noted above, there were 1908 TAFE graduates employed in personal and other services at the time of the 1997 TAFE GDS. Nearly 46% of these graduates had undertaken their course of study in New South Wales.

On the other hand, graduates working in the personal and other services industry represented a higher proportion of employed graduates in the smaller States than they did in New South Wales, Victoria or Queensland. In those larger States they represented 4% or 4.1% of all that State's employed TAFE graduates, whereas in the other States they represented between 5.7% and 6.1% of all those States' employed graduates, 7.3% of all graduates in the Northern Territory and 4.8% of those in the Australian Capital Territory. This result is in line with the distribution of employment in the industry noted earlier which is less concentrated in the larger States.

Nearly a quarter, 24.4%, of all the surveyed graduates working in personal and other services had completed a trade certificate, placing this industry third in importance behind construction, and manufacturing, in terms of the proportion of its employed graduates who had completed a trade course.

The other main qualifications held by the industry's graduate employees in the survey were certificate (other), 18.1% and Australian Qualification Framework (AQF) certificate III, 13.6%. An above-average proportion, 9.1%, had completed an AQF certificate IV course.

Reflecting the high proportion of former apprentices among the surveyed graduates in this industry, a quite high 58.3% of those surveyed who had been employed in their final semester had received some form of financial support from their employer. Around 51% of all graduates had received some form of employer support.

About 75% of the graduates working in personal and other services at the time of the survey were employed full time, a higher proportion than of all graduates surveyed, of whom 66.6% were working full time. For 38% of those working full time, this was their first full-time job.

Average weekly full-time earnings for graduates in the industry were $516, a middle-ranking level among all the surveyed graduates. There was, however, a very pronounced disparity between male and female graduates. Male graduates' full-time average weekly earnings were $719, while females in the same category earned $380 or 52.9% of the male rate. This was the lowest level of full-time earnings for female graduates in any industry and the greatest gap between male and female TAFE graduates' earnings in any industry in the survey.

As noted earlier in this chapter, the gap between male and female earnings in this industry for all workers (not just TAFE graduates) is greater than in any other industry, with non-managerial weekly full-time earnings for females being just 72.4% of the equivalent male rate. It is perplexing that for females working in this industry, the acquisition of a TAFE credential appears to widen the earnings disparity with males.

Again, while this is probably a reflection of the marked occupational gender segregation in what is, in reality, a very diverse industry, it highlights the failure of the VET sector to address the issue of how VET can reinforce this segregation which produces such significant income disparities.

In the survey, graduates were asked to state their main reason for undertaking their course of study and to assess how successfully they had achieved their aim. The following table summarises the main responses to these questions, again highlighting the significance of apprentices in this industry.

Table 17.10: TAFE graduates working in personal and other services—reasons for doing course and achievement of aim

Reason and number	Fully achieved (%)	Partly achieved (%)
Get a job (391)	72.4	13.8
Try for different career (200)	56.5	11.5
Get better job/promotion (271)	43.2	14.8
Requirement of job (489)	95.3	2.5
Get extra skills (309)	78.3	14.6
Personal interest (175)	84.0	9.7

Source: NCVER, 1997 TAFE graduate destination survey, unpublished data

The largest group of graduates working in the industry gave their motivation as being because the course was a requirement of their job, indicating that these were mostly apprentices or, in some cases, trainees. The relatively high number who undertook the course to get a job, and were subsequently successful, reinforces the good rating given by graduates to their courses reflecting industry needs.

Employer support for training

In 1996 the ABS conducted the employer training expenditure survey (ABS, cat.6353.0), a survey of structured training provided by employers in the September quarter of that year. A similar survey was undertaken three years previously.

Employers in personal and other services spent more than the average employer on structured training during the three-month period. Their expenditure on structured training per employee was $298.54, compared to the all-industry average of $185.49. This per capita expenditure by the industry represented a small increase from the level recorded in the similar 1993 survey, whereas over the three-year period there was an overall reduction in per capita expenditure on structured training.

Employers in personal and other services also spent an above-average proportion of their payrolls on structured training during the September quarter of 1996, 3.99% compared to 2.54%, and allocated more hours of structured training per employee, 9.67 hours compared to the all-industry average of 4.91 hours. While the proportion of the payroll spent on structured training during the three-month period surveyed in personal and other services declined between 1993 and 1996, the hours of structured training increased. Most training hours were allocated to structured training in the technical and associate professional area. Only two other industries allocated more training hours per employee than personal and other services—mining, and electricity, gas and water.

The later ABS study *Employer training practices, Australia*, February 1997 (cat.6356.0), showed an increase in the proportion of employers in the industry providing both structured and unstructured training over the 12 months up to February 1997. It also showed that the industry was an above-average user of TAFE as an external provider of training. Of all employers in the industry, 67% used TAFE and 54% used private providers for the provision of structured training.

Of those employers in the industry not providing any form of training to their employees, most (66%) said they did not provide training because their employees were already adequately trained. A further 37% cited cost constraints, while 31% identified time constraints.

- Many of the skilled workers in this industry, such as police, receive their training outside the VET sector.
- Available data make it very difficult to identify the level of government funding support for training in this industry.
- TAFE graduates, when surveyed in 1997, displayed quite a high level of satisfaction with their TAFE course but, like all graduates, were critical of the provision of information on jobs and careers.
- Employers were generally well satisfied with VET provision but wanted to see improvements in graduates' work skills and work ethic.
- Employers in personal and other services spent well above the average on structured training and allocated considerably more time to structured training for their staff than the average employer in Australia.

Some training issues in personal and other services

- Why is there such a large proportion of workers in this industry working at the trades and related level who lack any formal qualification? Should the VET sector be investigating why it is apparently not meeting the training needs of this group?
- What can be done by the VET sector to address the very large disparity in incomes of male and female TAFE graduates working in this industry? While this is probably a product of marked occupational gender segregation in the industry, there would appear to be a role for the sector to at least explain the likely income consequences for females choosing courses that lead to employment in this industry.
- Should the VET sector be addressing the apparent anomaly that while this industry has a large body of middle-level skilled workers, many of these individuals receive their training through in-house or other non-VET provision? Is the recent move in New South Wales for police to undertake university-level study appropriate or would this be a role better fulfilled by the VET sector?
- Should the ABS reconsider the ANZSIC industry code that groups in this industry a collection of activities that, in reality, have very little in common?
- What does the desire for employers to see an improvement in the work skills and work ethic of graduates mean for the VET sector? Are these issues that VET can address or are they purely the responsibility of the employer?

The national ITAB covering the personal services part of this industry, the WRAPS ITAB, identified the following emerging issues in its 1997 training plan submitted to ANTA:

> *Emerging issues identified are: the distance learning and on-job training and assessment options, particularly at traineeship level; and assessment quality assurance and implementation mechanisms.*

> *Assessment issues involve: assessors who are not registered training providers; the need to develop a database of workplace assessors; and the training of workplace assessors. User choice issues relate to access by training providers to training in traditional apprenticeship areas. Training issues relate to level three traineeships and part-time traineeships where industrial issues need to be resolved.*

The national public sector ITAB, which covers the large part of the 'other services' part of this industry, identified the following emerging VET issues:

> *The industry has made a significant effort to improve VET. Some of the issues which need to be dealt with include addressing any barriers to industry and private providers; increasing the emphasis on user choice; and using niche providers who are well placed to deliver technical courses or discrete course components—for example, the use of a computer software company to deliver an information management module within the public sector management course.*
>
> *Flexible training initiatives should be sponsored, and preference given to providers who can design flexible delivery modes. This is of particular importance to employees in rural and isolated areas, and in specific employment categories, especially those involving shiftwork.*

Notes

The following table is extracted from the ANTA resource allocations for 1997 document, available at their website. It shows the planned allocations of government-funded training between the ANTA-defined 'training areas' in terms of 'annual hours curriculum' (AHC).

Table A17.1: Key national shifts in activity between 1996 revised estimates and 1997 projected activity (AHC '000s)

Industry training area	1996 revised	1997 projected	Total increase	Total increase as % of 1996 revised	% of overall increase
Category A					
Arts, Entert, Sports and Rec	11 408	11 928	520	4.6	5.5
Automotive	8 221	8 576	355	4.3	3.7
Building and Construction	18 785	19 009	224	1.2	2.4
Comm Services, Health and Ed	20 910	22 382	1 471	7.0	15.5
Finance, Banking and Insurance	3 420	3 468	48	1.4	0.5
Food Processing	2 454	2 851	396	16.1	4.2
TCF and Furnishings	5 714	5 813	100	1.7	1.0
Communications	1 883	1 963	80	4.3	0.8
Engineering and Mining	15 654	16 607	952	6.1	10.0
Primary Industry	11 874	12 217	343	2.9	3.6
Process Manufacturing	397	479	82	20.6	0.9
Sales and Personal Service	6 527	6 752	225	3.4	2.4
Tourism and Hospitality	16 707	18 151	1 444	8.6	15.2
Transport and Storage	1 686	1 851	164	9.8	1.7
Utilities	11 898	12 145	247	2.1	2.6
Category B					
Business and Clerical	42 412	43 117	705	1.7	7.4
Computing	11 969	12 641	672	5.6	7.1
Science, Technical and Other	6 727	6 870	143	2.1	1.5
Category C					
Gen Education and Training	40 046	41 212	1 166	2.9	12.3
Unallocated	622	779	157	25.2	1.6
Total	**239 316**	**248 810**	**9 494**	**4.0**	**100.0**

Note: TCF – textiles, clothing and footwear

Source: Publications, *ANTA Resource Allocations 1997*, <www.anta.gov.au>

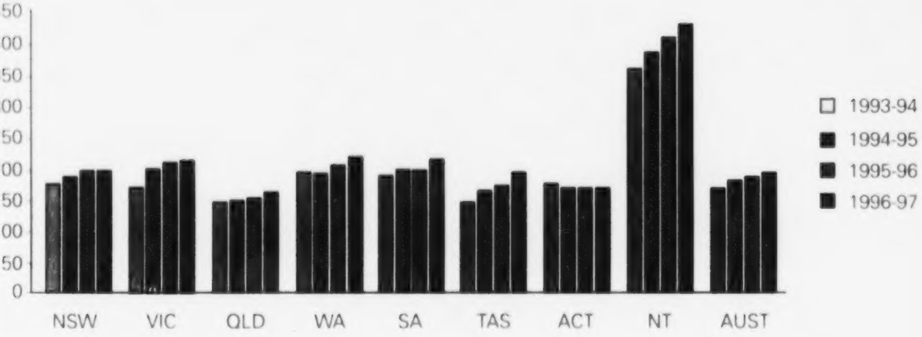
Table A17.2: Employed persons by occupation in the personal and other services industry, 1987 and 1996

Occupation (ASCO 4-digit)	1987	1996	Change 1987 to 1996	
				Average annual
	('000s)	('000s)	('000s)	%
2607 Ministers of religion	3.6	12.6	9.0	15.4
2799 Other business professionals	3.8	3.2	-0.6	-1.9
2803 Photographers	3.6	6.4	2.8	6.8
3501 Police	17.0	38.0	21.0	9.6
3901 Welfare para-professionals	4.1	2.9	-1.2	-3.9
3911 Prison officers	3.0	8.3	5.3	12.3
4805 Gardeners	6.7	11.7	5.0	6.6
4927 Hairdressers	43.9	42.7	-1.2	-0.3
5101 Office secretaries and stenographers	8.0	6.9	-1.1	-1.7
5201 Data processing machine operators	2.1	4.1	2.0	7.9
5301 Accounting clerks	8.2	10.4	2.2	2.8
5601 Receptionists and information clerks	4.8	7.4	2.6	5.1
5999 Other clerks	4.3	1.2	-3.1	-13.6
6301 Sales assistants	6.5	8.9	2.4	3.7
6601 Childcare refuge and related workers	16.3	13.2	-3.1	-2.4
6699 Other personal service workers	6.0	15.7	9.7	11.6
7105 Truck drivers	2.9	5.3	2.4	7.1
7211 Fire fighters	3.9	6.8	2.9	6.6
8205 Nursery and garden labourers	6.7	14.2	7.5	9.0
8301 Cleaners	13.4	11.7	-1.7	-1.5
8917 Laundry workers	8.1	10.0	1.9	2.4
8999 Other labourers and related workers	2.9	4.9	2.0	6.2
Other occupations	73.0	73.3	0.3	0.0
Total all occupations	**252.8**	**319.8**	**67.0**	**2.7**

Note: As estimates of less than 3500 are subject to high statistical error, they are listed against specific occupations only where there was a higher estimate in either 1987 or 1996. Where estimates of less than 3500 were recorded for both 1987 and 1996, they are included in the 'other occupations' category

Source: ABS labour force survey, unpublished data

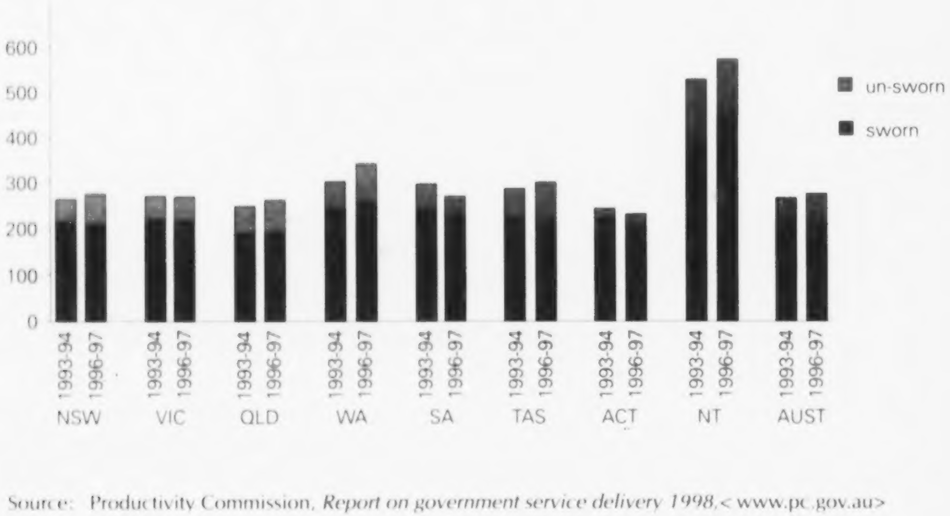
Chart A17.1: Police recurrent expenditure per persons, 1993–1994 to 1996–1997 (in 1996–1997 dollars)[a]



Note: a There were some discrepancies in the data as a result of differences in the treatment of payroll tax and superannuation. The NT and the ACT did not include depreciation in their expenditure data. Tasmania, SA and Queensland had depreciation information available only for 1996–1997; NSW, Victoria and WA had depreciation information available for all years. The reported increases in Tasmanian expenditure may be somewhat misleading as agencies were required to pick up superannuation/payroll funding for the first time during the period

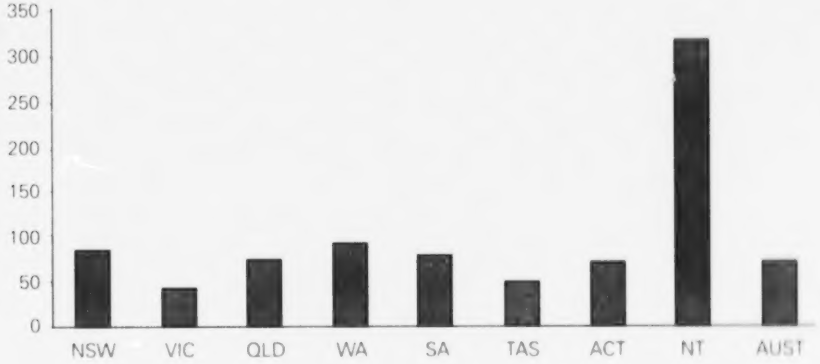
Source: Productivity Commission, *Report on government service delivery 1998*.< www.pc.gov.au>

Chart A17.2: Corrective services provision by State/Territory



Source: Productivity Commission, *Report on government service delivery 1998*,< www.pc.gov.au>

Chart A17.3: Corrective services provision by State/Territory, recurrent expenditure per head of adult population, 1996–1997 ($)



Source: Productivity Commission, *Report on government service delivery*, 1998 ,< www.pc.gov.au>

Table A17.3: Apprentices in training at 30 June 1985 to 1997 by occupation group (ASCO)

Occupation group		Apprentices in training at 30 June												
		1985	1986	1987	1988[a]	1989	1990	1991	1992	1993	1994	1995[b]	1996	1997
1	Managers and Administrators	–	–	–	–	–	–	–	–	–	–	617	523	521
2	Professionals	–	–	–	–	–	–	–	–	–	–	–	–	–
3	Para-Professionals	–	–	–	–	–	–	–	–	–	–	549	272	470
4	Tradespersons nfd	–	–	–	–	–	–	–	–	–	–	1	–	1
41	Metal Fitting and Machining	–	–	–	15 172	15 528	16 168	15 145	14 375	12 391	11 243	10 360	9 698	10 235
42	Other Metal	44 494	42 125	43 447	11 590	12 184	13 408	12 333	11 566	9 812	9 456	9 261	9 829	9 690
43	Electrical	18 316	18 035	17 923	20 917	21 859	23 342	22 382	20 921	17 821	16 533	15 867	16 748	16 703
44	Building	21 869	22 801	25 222	27 742	30 312	32 727	30 618	28 769	23 799	25 518	26 439	25 930	24 288
45	Printing	3 389	3 827	4 261	4 692	3 362	4 509	3 978	3 618	1 984	2 028	3 107	3 317	3 160
46	Vehicle	5 952	6 454	7 346	23 829	25 301	27 080	25 276	23 423	19 560	18 922	19 772	21 125	21 152
47	Food	10 966	11 987	13 150	13 937	13 815	14 282	13 945	13 917	13 503	15 205	15 125	15 586	16 269
48	Horticulture		–	–	3 243	3 375	3 527	3 477	3 398	3 357	3 511	3 408	3 395	2 948
49	Miscellaneous	23 594	25 172	27 565	25 988	26 000	25 946	23 835	22 952	20 446	20 842	17 836	17 645	17 279
	4927 – Hairdressing	–	–	*14 525*	*14 010*	*13 611*	*13 185*	*12 506*	*12 183*	*11 266*	*11 203*	*10 097*	*9 952*	*9 721*
	4900 – Other	–	–	*13 040*	*11 978*	*12 389*	*12 761*	*11 329*	*10 769*	*9 180*	*9 639*	*7 739*	*7 693*	*7 558*
5	Clerks	–	–	–	–	–	–	–	–	–	–	–	–	–
6	Sales and Personal Serv Workers	–	–	–	–	–	–	–	–	–	–	533	360	323
7	Plant and Mach Operators and Drivers	–	–	–	–	–	–	–	–	–	–	73	20	30
8	Labourers and Related Workers	–	–	–	–	–	–	–	–	–	–	–	–	–
Australia		**128 580**	**130 401**	**138 914**	**147 110**	**151 736**	**160 989**	**150 989**	**142 939**	**122 673**	**123 258**	**122 949**	**124 448**	**123 069**

Note: a From 1988 onwards changes were made to occupational groupings. These include: the splitting of Metal into two trade groups—'Metal Fitting and Machining' and 'Other Metal'; the removal of Horticulture from the 'Miscellaneous' trade group category as a separate grouping and the transfer of the trade Vehicle Mechanic from the 'Metal' trade group category to the 'Vehicle' trade

b From 1995 onwards the farming and spare parts interpreting vocations were transferred from the 'Miscellaneous' trade group to 'Managers and Administrators' and 'Sales Persons and Personal Services Workers' respectively

Source: NCVER, Australian training statistics, unpublished data

Table A17.4: Educational attainment of employed persons, major occupational group

Personal and other services	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
ASCO code and occupation									
1 Managers and Administrators	3 305	604	724	1 323	512	6 468	866	4 314	11 648
2 Professionals	15 135	3 633	1 819	1 902	1 248	23 737	2 622	9 143	35 502
3 Associate Professionals	5 512	1 829	3 842	8 001	3 180	22 364	5 821	31 074	59 259
4 Tradespersons and Related Workers	821	547	781	35 179	1 398	38 726	4 045	17 992	60 763
5 Advanced Clerical and Service Workers	636	422	380	277	976	2 691	1 147	5 642	9 480
6 Intermediate Clerical, Sales and Service Workers	2 585	1 484	1 892	4 666	2 221	12 848	5 310	23 130	41 288
7 Intermediate Production and Transport Workers	330	184	165	1 609	325	2 613	865	8 855	12 333
8 Elementary Clerical, Sales and Service Workers	885	374	367	1 362	641	3 629	1 832	18 225	23 686
9 Labourers and Related Workers	521	376	318	3 164	531	4 910	1 406	14 738	21 054
0 Inadequately described	149	43	45	264	58	559	162	1 179	1 900
Not stated	56	12	9	141	23	241	168	586	995
Not applicable	–	–	–	–	–	–	–	–	–
Total	**29 935**	**9 508**	**10 342**	**57 888**	**11 113**	**118 786**	**24 244**	**134 878**	**277 908**

Source: ABS, 1996 Census of population and housing

Table A17.5: Educational attainment of employed persons by industry, occupation (3-digit ASCO) and type of post-school qualification at 1996 Census

Personal and other services	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
ASCO code and occupation									
100 Managers and Administrators nfd	399	96	77	280	80	932	153	990	2 075
110 Generalist Managers nfd	0	0	3	0	0	3	0	0	3
111 General Managers and Administrators	665	104	98	199	57	1 123	106	661	1 890
119 Miscellaneous Generalist Managers	17	8	17	74	7	123	17	89	229
120 Specialist Managers nfd	58	15	14	15	7	109	12	53	174
121 Resource Managers	635	118	109	98	77	1 037	100	600	1 737
122 Engineering, Distribution and Process Managers	174	36	34	108	26	378	42	270	690
123 Sales and Marketing Managers	265	44	39	75	54	477	60	380	917
129 Miscellaneous Specialist Managers	1 058	162	312	400	172	2 104	344	1 050	3 498
131 Farmers and Farm Managers	33	21	23	73	32	182	32	219	433
200 Professionals nfd	276	28	14	9	19	346	22	84	452
210 Science, Building and Engineering Professionals nfd	0	0	0	0	0	0	0	0	0
211 Natural and Physical Science Professionals	244	22	29	23	11	329	16	91	436
212 Building and Engineering Professionals	187	30	33	51	16	317	15	57	389
220 Business and Information Professionals nfd	9	8	3	3	0	23	0	12	35
221 Accountants, Auditors and Corporate Treasurers	635	75	204	14	22	950	79	261	1 290
222 Sales, Marketing and Advertising Professionals	339	45	39	53	38	514	49	406	969
223 Computing Professionals	367	38	57	27	25	514	44	248	806
229 Miscellaneous Business and Information Profs	1 983	218	251	526	202	3 180	252	1 675	5 107
230 Health Professionals nfd	0	0	0	0	0	0	0	0	0
231 Medical Practitioners	98	5	3	6	4	116	4	18	138
232 Nursing Professionals	286	351	19	3	35	694	64	51	809

Personal and other services	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
238 Miscellaneous Health Professionals	254	31	8	12	9	314	32	57	403
240 Education Professionals ntd	22	3	3	3	0	31	0	5	36
241 School Teachers	577	178	66	8	12	841	42	173	1 056
242 University and Vocational Education Teachers	383	50	28	41	14	516	35	103	654
249 Miscellaneous Education Professionals	825	169	79	90	45	1 208	102	590	1 900
250 Social, Arts and Miscellaneous Professionals ntd	6	3	0	0	0	9	0	3	12
251 Social Welfare Professionals	6 962	1 797	651	543	404	10 357	1 231	2 363	13 951
252 Miscellaneous Social Professionals	478	31	41	43	39	632	68	278	978
253 Artists and Related Professionals	965	468	253	404	321	2 411	513	2 464	5 388
254 Miscellaneous Professionals	242	84	39	45	29	439	52	205	696
300 Associate Professionals ntd	22	8	16	27	21	94	15	109	218
310 Science/Engineering and Related Assoc Profs ntd	4	3	12	16	4	39	0	14	53
311 Medical and Science Technical Officers	117	18	31	50	33	249	27	132	408
312 Building/Engineering Associate Professionals	27	21	71	188	15	322	25	73	420
320 Business and Administrative Assoc Profs ntd	3	0	4	0	0	7	0	12	19
321 Finance Associate Professionals	117	24	36	15	31	223	31	270	524
329 Miscellaneous Business/Admin Assoc Profs	1 166	275	320	334	378	2 473	424	2 633	5 530
330 Managing Supervisors (Sales and Service) ntd	3	4	3	17	3	30	0	27	57
331 Shop Managers	347	167	152	735	188	1 589	383	3 370	5 342
332 Hospitality and Accommodation Managers	41	22	19	136	15	233	34	199	466
339 Miscellaneous Mngr. Supervisors (Sales and Service)	394	197	180	1 241	225	2 237	404	2 700	5 341
340 Health and Welfare Assoc Professionals ntd	0	0	3	0	0	3	0	3	6
341 Enrolled Nurses	16	12	21	4	64	117	10	28	155
342 Welfare Associate Professionals	444	117	238	154	154	1 107	150	678	1 935
349 Miscellaneous Health and Welfare Associate Profs	61	60	51	37	63	272	60	227	559

Personal and other services	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
390 Other Associate Professionals nfd	0	0	0	0	3	3	0	0	3
391 Police Officers	2 633	849	2 606	4 787	1 928	12 803	4 089	20 016	36 908
399 Miscellaneous Associate Professionals	113	52	83	260	57	565	165	584	1 314
400 Tradespersons and Related Workers nfd	4	3	3	118	5	133	14	84	231
410 Mechanical/Fabrication Engineering Trades nfd	0	0	0	5	0	5	0	0	5
411 Mechanical Engineering Tradespersons	6	5	5	292	9	317	18	106	441
412 Fabrication Engineering Tradespersons	0	0	3	114	5	122	15	70	207
421 Automotive Tradespersons	8	7	19	983	18	1 035	56	177	1 268
431 Electrical and Electronics Trades	22	16	20	287	18	363	28	212	603
440 Construction Tradespersons nfd	0	0	0	3	0	3	0	3	6
441 Structural Construction Trades	3	3	6	233	9	254	26	188	468
442 Final Finishes Construction Trades	0	3	0	89	7	99	19	129	247
443 Plumbers	0	0	3	127	3	133	20	119	272
451 Food Tradespersons	21	16	3	66	14	120	41	261	422
460 Skilled Agricultural/Horticultural Workers nfd	0	0	0	0	0	0	0	0	0
461 Skilled Agricultural Workers	10	5	4	20	7	46	11	106	163
462 Horticultural Tradespersons	378	222	308	1 862	416	3 186	592	5 984	9 762
490 Other Tradespersons and Related Workers nfd	0	0	3	36	0	39	3	5	47
491 Printing Tradespersons	8	5	6	74	3	96	15	97	208
492 Wood Tradespersons	3	0	0	27	0	30	8	32	70
493 Hairdressers	101	105	143	28 354	622	29 325	2 160	7 183	38 668
494 Textile, Clothing and Related Trades	9	7	8	49	15	88	36	213	337
498 Miscellaneous Tradespersons and Related Wkrs	247	151	248	2 440	246	3 332	983	3 023	7 338
500 Advanced Clerical and Service Workers nfd	3	0	0	0	0	3	3	3	9

Personal and other services	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
511 Secretaries and Personal Assistants	408	296	236	127	810	1 877	905	3 789	6 571
590 Other Advanced Clerical and Service Wkrs nfd	0	0	0	0	0	0	0	0	0
591 Advanced Numerical Clerks	137	76	104	52	105	474	164	1 199	1 837
599 Miscellaneous Advanced Clerical and Service Wkrs	91	50	40	98	60	339	77	651	1 067
600 Intermediate Clerical, Sales and Service Wkrs nfd	7	7	3	4	5	26	11	36	73
610 Intermediate Clerical Workers nfd	6	0	3	3	0	12	0	12	24
611 General Clerks	443	180	218	221	477	1 539	583	4 231	6 353
612 Keyboard Operators	134	64	67	48	199	512	269	1 551	2
613 Receptionists	100	75	55	130	198	558	274	1 756	2 588
614 Intermediate Numerical Clerks	147	38	137	44	123	489	130	1 097	1 716
615 Material Record and Despatch Clerks	46	14	31	88	32	211	50	653	914
619 Miscellaneous Intermediate Clerical Workers	181	45	60	113	90	489	111	869	1 469
621 Intermediate Sales and Related Workers	64	25	37	115	47	288	65	548	901
630 Intermediate Service Workers nfd	0	0	4	0	3	7	0	18	25
631 Carers and Aides	580	373	308	497	390	2 148	701	4 610	7 459
632 Hospitality Workers	41	5	14	22	13	95	31	374	500
639 Miscellaneous Intermediate Service Workers	841	658	956	3 381	646	6 482	3 083	7 375	16 940
700 Intermediate Production and Transport Wkrs nfd	0	0	0	33	3	36	14	136	186
710 Intermediate Plant Operators nfd	0	0	0	18	0	18	10	79	107
711 Mobile Plant Operators	3	4	0	94	13	114	39	393	546
712 Intermediate Stationary Plant Operators	6	3	4	59	26	98	19	215	332
720 Intermediate Machine Operators nfd	17	7	6	65	9	104	62	468	634
721 Intermediate Textile/Clothing/Related Mach Ops	6	10	5	28	9	58	26	231	315

Personal and other services	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
729 Miscellaneous Intermediate Machine Operators	214	100	99	201	142	756	268	2 300	3 324
731 Road and Rail Transport Drivers	49	42	30	990	84	1 195	341	4 269	5 805
790 Other Intermediate Prod'n and T'port Wkrs nfd	0	0	0	0	0	0	0	0	0
791 Intermediate Mining and Construction Workers	0	0	0	10	7	17	7	38	62
799 Misc Intermediate Prod'n and Transport Wkrs	38	18	19	111	33	219	79	726	1 024
800 Elementary Clerical, Sales and Service Wkrs nfd	0	0	0	6	3	9	3	49	61
811 Elementary Clerks	81	32	26	43	82	264	100	854	1 218
820 Elementary Sales Workers nfd	3	0	0	0	3	6	3	24	33
821 Sales Assistants	342	137	149	360	251	1 239	687	7 501	9 427
829 Miscellaneous Elementary Sales Workers	82	35	36	99	47	299	100	1 128	1 527
831 Elementary Service Workers	378	170	156	853	256	1 813	941	8 669	11 423
900 Labourers and Related Workers nfd	14	6	11	74	12	117	52	617	786
911 Cleaners	192	143	95	733	201	1 364	516	5 247	7 127
920 Factory Labourers nfd	0	0	0	0	0	0	0	0	0
921 Process Workers	14	3	5	28	9	59	34	256	349
922 Product Packagers	12	5	6	11	6	40	26	228	294
990 Other Labourers and Related Workers nfd	0	3	3	9	5	20	9	66	95
991 Mining, Construction and Related Labourers	3	4	4	65	14	90	32	405	527
992 Agricultural and Horticultural Labourers	142	110	107	1 211	164	1 734	385	4 719	6 838
993 Elementary Food Preparation and Related Wkrs	10	16	9	17	17	69	51	362	482
999 Miscellaneous Labourers and Related Workers	130	87	79	1 016	103	1 415	301	2 837	4 553

Personal and other services	Bachelor degree or higher	Undergraduate diploma	Associate diploma	Skilled vocational qualification	Basic vocational qualification	With qualifications	Inadequately described or not stated	Not applicable (No quals.)	Total
099 Inadequately described	149	43	45	264	58	559	162	1 179	1 900
Not stated	56	12	9	141	23	241	168	586	995
Not applicable	–	–	–	–	–	–	–	–	–
Total	**29 940**	**9 511**	**10 350**	**57 888**	**11 114**	**118 803**	**24 240**	**134 877**	**277 920**

Note: nfd – not further defined

Source: ABS, 1996 Census of population and housing